

1 MEETING

2 STATE OF CALIFORNIA

3 ENVIRONMENTAL PROTECTION AGENCY

4 DEPARTMENT OF TOXIC SUBSTANCES CONTROL

5 GREEN RIBBON SCIENCE PANEL

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A P P E A R A N C E S

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Bob Boughton, Senior Hazardous Substances Engineer

Lynn Goldman, Staff Counsel

Radhika, Majhail, Public Participation Specialist

Karl Palmer, Branch Chief

Hortensia Muniz, Senior Hazardous Substances Engineer

ALSO PRESENT:

Greg Gorder, Technology Sciences Group

Will Lorenz, General Coatings

Miriam Rotkin-Ellman, Natural Resources Defense Counsel

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1 P R O C E E D I N G S

2 PUBLIC PARTICIPATION SPECIALIST MAJHAIL: Okay.

3 Good morning, everybody. How are you all today?

4 You look rested.

5 (Laughter.)

6 PUBLIC PARTICIPATION SPECIALIST MAJHAIL: All
7 right. Let's start today's session. And again I'm
8 Radhika Majhail with the Department of Toxic Substances
9 Control, and welcome you all again for the second day of
10 the GRSP. The bathrooms are still at the same location.
11 Nothing changed overnight.

12 (Laughter.)

13 PUBLIC PARTICIPATION SPECIALIST MAJHAIL: They're
14 still out the door, past the Byron Sher on the left-hand
15 side. The fire exits are still the same. And just in
16 case, of emergency, if something happens we will be
17 meeting downstairs by Cesar Chavez Park, so -- and just a
18 quick announcement for the members that are leaving right
19 at lunch or right after lunch, there's a slight change in
20 the cab program. So I hope -- the pick up location of the
21 cabs. I hope you have the new directions. If not come
22 see me, and then well, you know, set you up.

23 And without any further delays, let's start.

24 CO-CHAIRPERSON FONG: Good morning, everyone. A
25 really exciting agenda for today. There are three items

1 that we would like to cover. The first one it's on the
2 strategies for determining relevant factors. The second
3 one it's the conceptual model, using the diagram the Kelly
4 had shared with us yesterday. And actually that's going
5 to be the if first thing we're going to cover after the
6 public comment period.

7 And I think that's going to be really
8 interesting, because Karl is actually going to go through
9 that diaphragm, that conceptual model and give us some
10 insight into how something like that can be used by DTSC
11 in its decision making process.

12 So again, that would be the first item. The
13 second item would be the strategies for determining
14 relevant factors and the third item would be data gaps.

15 So let's start with public comments. If you have
16 not done so, it's not too late to sign up. We do have
17 one.

18 And again, I just want to remind the public that
19 this is a working meeting for the Green Ribbon Science
20 Panel. So the members will not be able to respond to your
21 comments and directly answer your questions. And if your
22 comments -- and if you're interested specifically direct
23 it at DTSC. Again, there will be a number of workshops in
24 which you will have the opportunity to present comments
25 and ask DTSC questions, okay?

1 Thank you very much.

2 Kelly.

3 CO-CHAIRPERSON MORAN: Yes. Thank you. So we'll
4 take public comments now, and then we might have a couple
5 of introductory words from our DTSC leaders, before we
6 dive into the AA related topics that Art mentioned. And
7 we've got I think two speaker cards here. If you would
8 wish to address the Green Ribbon Science Panel this
9 morning, please immediately grab one of those cards from
10 staff and put that in.

11 And because we only have two people, you'll be
12 welcome to speak for at least three minutes, but I
13 wouldn't -- I'm hoping you can keep your comments within
14 that kind of time frame, so we keep the meeting moving.
15 We've got a third card coming our way. And that will
16 allow us to keep the meeting moving.

17 And again, I want to emphasize that the purpose
18 of comments today is not to make comments to DTSC. It's
19 not a general comment discussion. This is a science
20 advisory panel, and we'd be looking for comments that
21 would inform the Science Panel members in their discussion
22 of alternatives assessment and specifically the items that
23 my Co-Chair Art Fong listed for today that we'll be
24 discussing.

25 So there are other forums for providing direct

1 input to communicate with DTSC. As they mentioned,
2 they're having workshops. So that would be the place to
3 do that. So with that, the three speakers today we'll
4 start with Miriam Rotkin-Ellman followed by Will -- I
5 think that's Lopez. Lorenz, I'm sorry.

6 So please go ahead. And you can move the mic to
7 get to the right height so it's more comfortable.

8 MS. ROTKIN-ELLMAN: It's on. Yea. All right.
9 Good morning. My name is Miriam Rotkin-Ellman. I'm a
10 scientist with the Natural Resources Defense Council.
11 Thank you all for your attention and your expertise to the
12 topic at hand. And for the opportunity to provide some
13 input from the public stakeholder perspective, as you all
14 are wrestling with the technical components of the
15 questions before you today.

16 And I want to speak as somebody who's relatively
17 new to the alternative analysis field, but I think also
18 that input is not something that might actually inform
19 your discussion the rest of the day. And I apologize, I
20 will be here and then be jetting out. And then I was
21 listening yesterday via audio, because it's difficult to
22 squeeze everything in. So that doesn't mean that I don't
23 care, it just means that I have to go.

24 So just a couple of different points I want to
25 touch on based on the reflections from the conversation I

1 heard yesterday afternoon. One is just from the -- in
2 development of a robust program that the public can be
3 come confident in, there's a fair amount that I'd love you
4 all to consider that relates to transparency and
5 accountability, and the development of the guidance
6 documents. That's an essential component, in addition to
7 the technical robustness of those documents, that will
8 make this program a success and that will engender the
9 kind of support from the public that I think everybody
10 here wants.

11 And there were a few sort of specifics on that
12 that came up yesterday that I just want to highlight. So
13 there's a discussion around shifting the burden to the --
14 what do you guys call it? -- regulated entity -- so many
15 different words -- responsible entity. Thank you. Use
16 the right word. And that is something that's a central
17 tenet here and very important.

18 It's important to understand what is being
19 shifted and what is not being shifted. And there's a real
20 difference between shifting the responsibility for data,
21 for information gathering, for disclosure to the
22 responsible entity to shifting the decision to the
23 responsible entity. And that makes a big difference from
24 the stakeholder perspective.

25 And I just want to -- I think this Panel can

1 provide some very clear guidance to the agency in the
2 development of how to be clear about the responsibilities
3 and how they are being allocated to various people
4 involved in this process.

5 Second piece on that in that sort of similar
6 vein, a few times around people articulating different
7 ways one could go forward. You know, people bandied
8 around they're like we'll know it when we see it kind of
9 idea. That, from a public, you know, raises a lot of
10 flags from the outside world.

11 You know, I just want to put that reflection back
12 in, that that doesn't provide the level of accountability
13 and transparency the public is really looking for. I
14 think a lot of you know that. I just think it's important
15 to have that in front of you.

16 And then the last piece of reflection I just want
17 to pull out from the conversation yesterday that I heard
18 around was a discussion around the goal. And the goal of
19 the program, of the alternatives analysis itself and the
20 goal therefore of the guidance document that would then
21 help further that goal.

22 And I think that's an important framework to
23 continue to come back to. Because I heard articulated
24 that the goal of the alternatives analysis is to identify
25 alternatives that don't -- and then, you know, do all

1 these different things, right? I mean, that's the goal.
2 You know, avoid risk transfer, avoid regrettable
3 substitutions. All of those are goals, in which case,
4 then your guidance document one framework for looking at
5 it is what incentive does that guidance document provide
6 to stop -- you know, to reach a gate where you do not need
7 to go any further in your analysis. If that guidance
8 document provides robust scientifically justified gates
9 that criteria is met by which there is good evidence that
10 the other downstream impacts are not going to happen
11 because of those criteria, that's an incentive, and that
12 can drive a reduction in the full amount of analysis. The
13 same thing around data, and data gaps.

14 CO-CHAIRPERSON MORAN: Thank you very much, Ms.
15 Rotkin-Ellman.

16 Mr. Lopez(sic) followed by Greg Lorenz.

17 DEPUTY DIRECTOR WILLIAMS: Lorenz.

18 CO-CHAIRPERSON MORAN: Lorenz. And I'm so sorry.

19 MR. LORENZ: Hello, Panel. Thank you very much
20 for hearing me for the third time. I guess my question is
21 about the process and some comments related to that. We
22 certainly would like to see that the process that they use
23 for determining compounds on the list of, let's say,
24 whatever, it's 1100 or something, is a similar process as
25 to what we need to provide information for evaluation.

1 So you talk about these matrixes(sic) of what
2 you're going to evaluate and the critical factors, whether
3 there's seven or whether it's 1,060 or something, you
4 know -- and if there's data gaps we all understand that,
5 because there are, because sometimes we're not evaluating
6 them and you're not evaluating them. But we hope that
7 this -- the process is such that what is inputted as to
8 why it's on the prioritization list, is the same sort of
9 thing is that you're looking for in the evaluation, so
10 that we can know what the marker is we need to meet
11 because you've said these are the things that are on the
12 list, and here's our matrix for evaluating them.

13 And so it's important for us to then see how your
14 decision making tree goes about, so that we look at future
15 products or current products in that light. And, you
16 know, we'd like to see that, so that it starts at the
17 beginning in the determination of the compounds and goes
18 all the way through the process, so at the end of the day,
19 you know, you get our buy-in rather than you get us, you
20 know, coming up like I did yesterday where we're a little
21 upset.

22 Thank you very much.

23 CO-CHAIRPERSON MORAN: Thank you. Greg Gorder.
24 Have I got your name right?

25 MR. GORDER: You do.

1 CO-CHAIRPERSON MORAN: Thank you.

2 MR. GORDER: Thanks, Kelly. Yeah. Greg Gorder,
3 Technology Sciences Group. I wanted to comment on the
4 discussion yesterday that -- some things I heard like Don
5 was talking about, well, what's just concentrate on the
6 date that are critical to the receptors that are going to
7 be influenced. And Kelly was discussing, well, we start
8 out with this conceptual model and so on. I mean, all
9 that seems right.

10 And Helen was saying, for example, that at some
11 point, it becomes too much, that you can't do everything.
12 Let's do what makes sense here. And it seems to me that
13 there's a little bit of stiffness in this guidance
14 document that a lot of agencies interact. You know, a
15 company could come in and say, you know, we're considering
16 this alternative. We've done the literature review Julia
17 talked about, for example. This is what's available.
18 We've gone to EPA EPI Suite. We know the physical
19 properties. Is it going to bioaccumulate? Is it going to
20 go into air and so on, and discuss with the Agency, we
21 don't think we have to do this, you know, and then there
22 aren't surprises later. You know, the Agency says well,
23 you know, we're still concerned about this or that or, no,
24 we agree with you, and then the company has some certainty
25 about putting the effort into going forward with that

1 alternative, for example. And so I just think there needs
2 to be a little bit more flexibility than was discussed
3 yesterday.

4 Thank you.

5 CO-CHAIRPERSON MORAN: Thank you very much.

6 Is there anyone else who wishes to address the
7 Science Panel?

8 Seeing none. That will end the public comment
9 period. And I think I, at this point, will turn this back
10 over to Art.

11 CO-CHAIRPERSON FONG: Thank you very much, Kelly.

12 Let me just again go over the three agenda items
13 that we want to cover today, starting off with the
14 conceptual model, then strategies for determining relevant
15 factors, and data gaps. Corey or Radhika, can you put the
16 coal tar conceptual model slide on -- excellent. Thank
17 you very much Radhika.

18 So again, we're going to have Karl Palmer from
19 DTSC share some insight with us on how this particular
20 model and these types of conceptual models can be used by
21 DTSC in this decision-making process.

22 Karl.

23 BRANCH CHIEF PALMER: Than you, Art.

24 Yeah, if you look at this conceptual model slide,
25 and as Kelly mentioned yesterday, this actually was ten

1 years in the development or it evolved over time. And it
2 started with this framework. And without all the data
3 there to support, you know, how significant any of these
4 factor were, but over time they built the datasets that
5 then inform how good this model is.

6 And what I wanted to do was just give you one
7 scenario, a case study, if you will, for how DTSC used
8 this in selection of priority products, which I think is
9 relevant to the AA process, because our priority product
10 profiles real are set up to look at the key factors in the
11 regulation, just as that you have to address in the AA
12 process.

13 And this was sort of not by design, but it's a
14 good example, because one of the potential priority
15 products you were considering was, in fact, coal tar
16 sealants. And so the way we use this model, and if you
17 look at this, you can see that in the upper left-hand
18 corner of this diagram it says seal coat product, and
19 there's a container sitting in the corner.

20 So when we were looking at the criteria for
21 selecting a priority product, we did not dive in and look
22 at all alternatives. We did not look at every chemical
23 alternative. We did not look at, you know, every factor
24 on the list initially. The first question was, is this
25 product being used in California?

1 And so -- because part of our framework was that
2 we, you know, if it's not being used here, or sold here,
3 then there's no nexus with our program. So that may sound
4 like a simple question, but there are data gaps. There's
5 questions to be answered. And so I just wanted to
6 highlight some of the things we did in our decision making
7 thought process, which I think is informative.

8 So one of the things we first did, we said well
9 what is coal tar sealant? What are the characteristics of
10 it? Where are they in products? So we looked at MSDSs,
11 we looked at products, we did some research, we talked to
12 our counterparts at water boards, and USGS people who'd
13 studied coal tar sealants, so we could get a picture of
14 what that is, not at super great depth, but a snapshot.

15 And then we started asking the question, well, is
16 this an issue in California? So then we looked at the
17 market. And we have limited access to a lot of market
18 data. And lot of the market data which we've purchased is
19 really not designed for our focus. But we also had other
20 tools that we used, which were, you know, do a little ad
21 hoc market retail survey, get online see what Home Depot
22 and other major retailers sell or don't sell, talk to
23 contractors. So we got on the phone and we did a small
24 survey of contractors that use sealants of this nature,
25 and say do you have this? Can we buy this?

1 We also looked at the literature to say, you
2 know, how big of a problem is this and why? And USGS has
3 done a lot of work on coal tar sealants, and they actually
4 have a few studies that look at where it's used, and they
5 had a study that said that by and large these products are
6 used east of the Rockies. And then they had another study
7 where they were looking at some work that had been done on
8 dust, which is, if you can see on here, is identified as
9 one of the things in the conceptual model, and exposure
10 pathway for PAHs.

11 And there was some discussion about, well, they
12 had analyzed dust for PAHs in California and found that
13 they were significantly lower than some of these states
14 that had a lot of coal tar sealant use.

15 Now, there wasn't a definitive study. There was
16 certainly data gaps there, but there was information that
17 we could use to consider how relevant this was to our
18 task, which was is this something we want to consider
19 moving forward as a potential priority product.

20 So when we line all that up, you know, then there
21 were still lots of data gaps. We didn't go through every
22 factor. We didn't -- but we looked at the key ones, is
23 there a significant potential adverse harm to people or
24 the environment in California?

25 And our initial cut was we don't think this rises

1 to that level of being something we want to start with.
2 That it doesn't appear to be a significant use. It's not
3 to say that it isn't used sometimes. You can order it
4 from Louisiana, you know, and use it. Why you would do
5 that? I'm not sure.

6 But what we did was essentially staff did all
7 this research. We had it on the table. People were
8 assigned to it. And then they came to our managers and me
9 and said this is what we've got. This is our
10 recommendation. This is what we think. And we went back
11 and forth on that. And ultimately in this framework, we
12 said we don't think that fits, and we document that for --
13 they documented it for me. We documented it for our
14 management. And we made a decision that, at that time, we
15 weren't moving forward on it.

16 And I think that's very parallel, not at the
17 greatest depth, but what -- the phrase I like to use
18 in-house is, "Show your work". And I think it's very
19 applicable to this whole process, is that there are going
20 to be times where you get in this framework and, yes --
21 let's say, we did know it was used California, then we
22 would start looking at all these different things and do
23 the similar kind of logical process to eliminate or pull
24 in factors that need further consideration, the presence
25 or lack of data, comparing data if you have it or not and

1 how to deal with data gaps.

2 So this is just a mini snapshot, I think, of how
3 we've used this type of thing. And I think it applies
4 more generally, and we'd be interested in hearing your
5 thoughts on that.

6 CO-CHAIRPERSON FONG: Karl, thank you very much.
7 So we're going to take about an hour and have a -- an
8 hour?

9 PANEL MEMBER SCHWARZMAN: Can I ask a clarifying
10 question?

11 CO-CHAIRPERSON FONG: Yes. Sorry. Clarifying
12 questions.

13 Meg.

14 PANEL MEMBER SCHWARZMAN: I was hoping maybe --
15 Karl, thank you for that description. It's really helpful
16 to see how the Department used something like this. I
17 think I struggled with the genericness of that term,
18 conceptual model, to really understand how you meant it to
19 be used. Can you say something about how you might
20 picture a model like this being used in an alternatives
21 analysis?

22 So it was very clear how your staff used it in
23 your process of investigating a product. How might it
24 apply in the process of doing -- or of a company
25 submitting an alternatives analysis.

1 BRANCH CHIEF PALMER: I think on a couple levels.
2 One is starting with what is your framework, you know,
3 that you're considering for your specific product and your
4 specific business model. And one thing to recognize is
5 that it might be different for difficult responsible
6 entities, because whether it's the presence of your
7 facility, you know, there are a lot of impacts that are
8 potentially relevant for one person and not for another.

9 So part of it is sketching out what your
10 framework is. And then an iterative process of how you're
11 going to address that framework. So using the framework
12 in the criteria in the regulations and in our --
13 ultimately, in our guidance that are going to help you
14 with that, to say this is where I'm going to come back to.

15 And much as Kelly described that over time this
16 specific framework led to a lot of fill-in data gaps and
17 information that was used for probably a variety of
18 things, that's what you would do in this process to inform
19 the decision making supported -- or required by the AA,
20 and then you would fill those gaps and tell your story in
21 the AA of where it's led you, and where those gaps were,
22 and how you dealt with them, how you considered whether
23 they were relevant or not, how you made that
24 determination, and I don't think there's -- I think
25 oftentimes the perception that people have is that there's

1 all of these factors in the list, and that it's a
2 checklist process. And I would say that it's not really a
3 checklist process.

4 We say in the reg you have to consider all these
5 things, but there's a default to the report being a
6 presentation of telling that story of the logic, the
7 rationale, the supporting documentation, the models used,
8 and the approach. And that's going to be a dynamic thing
9 that it is incumbent on the prepare to explain. I'm not
10 sure if that fits --

11 PANEL MEMBER SCHWARZMAN: Yeah, I think that gets
12 at it. So you're saying that this would almost be the
13 introductory page of an alternatives analysis that would
14 in form the Department --

15 BRANCH CHIEF PALMER: Yes.

16 PANEL MEMBER SCHWARZMAN: -- here's the way that
17 we consider this product to be used, and what we think the
18 potential environmental compartments are and potential
19 exposed populations. Here's the framework for our
20 analysis.

21 BRANCH CHIEF PALMER: Yes. And I think that's a
22 good visual. And I'm a visual person, so I mean, I would
23 love to have an AA guidance document that, you know, plop
24 your conceptual model in here, in each box, and how it's
25 related to each factor in the reg. And you would scroll

1 over, and you would click, and you would then tell your
2 story for that. And then you could then at the end of
3 your AA highlight your framework and show which factors
4 were significant, where alternatives come in and how you
5 change the potential future conceptual model, which is
6 where we're trying to go.

7 PANEL MEMBER SCHWARZMAN: That's helpful. Thank
8 you.

9 CO-CHAIRPERSON FONG: Thank you.

10 Are there any more clarifying questions for Karl
11 on what was presented?

12 Cal.

13 PANEL MEMBER BAIER-ANDERSON: Yes. Oh, was there
14 someone else?

15 CO-CHAIRPERSON FONG: Oh, I'm sorry. Julia. So
16 I have Julia, Cal, and -- Julia, please. I'm sorry.

17 PANEL MEMBER QUINT: Yeah. Thank you for that,
18 Karl. I mean it's very similar when we're like issuing an
19 alert on something. You know, you go through the same
20 steps. Is it used in California? And then you go through
21 that process. But I noticed in the regulation it talks
22 about scoping, screening, and quantitative analysis. I
23 mean, I think those words are used at least somewhere. So
24 to me, it's -- that's -- it's not exactly clear from the
25 conceptual model. It doesn't translate directly to those

1 three steps.

2 And I think that's what -- I mean, the scoping,
3 yes, but -- and then screening would -- to me would be
4 using something like GreenScreen or something to -- or,
5 you know, available literature, or whatever to screen out
6 what might be there. But the quantitative analysis that's
7 sometimes mixed with qualitative analysis. I mean, some
8 of that language I think we have to, if it's in the
9 regulation, somehow this conceptual model and things that
10 we do in the guidance document should relate to that, or
11 explain it, or something like that.

12 BRANCH CHIEF PALMER: I think that's a good
13 point. I think that there's some inferred -- in the
14 regulation the expectation I think that for the two phases
15 that part of -- the key part of that phase one is the
16 workplan and scoping, so that -- to address some of the
17 concerns that people have expressed about not getting too
18 far down the road and going in the wrong direction, that
19 we do view this as an interactive process, and that's a
20 point where we would take a snapshot and say, yeah, that
21 makes sense. Your model seems to make sense and your time
22 frames, and you're going to have to balance out, to the
23 extent you can at that time, the availability of data, and
24 then the process you're going to use, whether it's
25 qualitative or quantitative.

1 PANEL MEMBER QUINT: Yeah, some examples of that
2 would help.

3 BRANCH CHIEF PALMER: Yes, certainly.

4 PANEL MEMBER QUINT: Because it's very clear from
5 scoping that you can do the product's story. You know,
6 what is this, how is it made, and you can get that
7 information. But then for me even, you know, what you
8 mean exactly about quantitative analysis and this, you
9 know, paradigm I -- you don't know exactly what that
10 means. So I think for some of those it would be very good
11 to explain, you know, exactly what you mean or give an
12 example.

13 BRANCH CHIEF PALMER: I hope that we can give
14 some good examples that will inform people in the
15 guidance. And one thing I think would be helpful for us
16 from this Panel, there are various of you who have a lot
17 of experience in doing some form of alternatives
18 assessment or analysis in your business process, and in
19 some sense, this process is just expanding the view. And
20 when you say how do you do a quantitative assessment of
21 something, whether it's in your realm, you're doing that
22 for one factor or for one aspect of your business model
23 right now.

24 We've added some other ones that may be you
25 haven't done, but I think we would be informed by how

1 people have already done that with existing processes and
2 apply that to these other boxes that maybe people haven't
3 considered or that there's some ambiguity about how we're
4 going to go about doing that.

5 CO-CHAIRPERSON FONG: Great. Before I let Cal
6 answer her questions, I just got the word that Bill
7 Carroll is, in fact, able to join us during his lunch
8 hour. So, Bill, are you on the phone?

9 PANEL MEMBER CARROLL: It's total dedication,
10 Art. I love you guys.

11 (Laughter.)

12 CO-CHAIRPERSON FONG: I know this is the kind of
13 commitment that we want to see from our Panel members.

14 (Laughter.)

15 CO-CHAIRPERSON FONG: So, Bill, if you have any
16 questions, please let us know, but I'm going to let Cal go
17 first and then come back to you, if that's okay?

18 PANEL MEMBER CARROLL: I have none. Go ahead.

19 PANEL MEMBER BAIER-ANDERSON: Okay. So I think
20 what this discussion illustrates is what Don and Kelly
21 mentioned yesterday is that we do these -- we build these
22 conceptual models kind of all the time automatically.
23 And, of course, they can be narrative or they can be
24 pictorial, or both.

25 And I was just wondering if it's -- if you

1 constructed, your staff constructed any pictorial
2 conceptual models for the products that have been
3 selected?

4 BRANCH CHIEF PALMER: No. I'm trying to think
5 back -- you know, it was an evolution as we dove into this
6 for the first time, but we didn't have a framework where
7 we have a pictorial model for each one of those products.
8 That model is essentially the narrative in the profile,
9 which aligns with the regulation as best we could.

10 And you'll note that even in those profiles there
11 are data gaps. There are things that are not there, and
12 in some cases we called those out and said we don't know
13 or in some cases we've said in consideration of viable
14 alternatives. Specifically, for SPF, we highlighted that
15 we don't know of any. But there is some research in the
16 EU. And I think one of the commenters yesterday said
17 there's some stuff on the horizon.

18 So I think it would be a good point if we did
19 that, and that could be a starting point, and that might
20 be something in the guidance that we could work on with
21 the people from that industry -- each of those industries
22 to say what is the real world model right now?

23 And that might be a place to start.

24 CO-CHAIRPERSON FONG: Good. Are there any more
25 clarifying questions for Karl?

1 Seeing none.

2 I'm going to now open up the general panel
3 discussion on using the conceptual -- so we're now going
4 to open up a general discussion on the conceptual
5 models -- wait a minute, didn't I just say that?

6 (Laughter.)

7 CO-CHAIRPERSON FONG: Wait a minute -- for
8 determining relevant factors, and especially interested
9 in, you know, practical experiences on the pros and cons
10 of using the conceptual models. And I think we're going
11 to have time-wise, yeah about 20 minutes or so. And
12 again, in terms of making comments, please use the flag
13 approach.

14 Let's see, I see Meg, Helen, Don, Cal. Okay. So
15 let's start with Meg.

16 PANEL MEMBER SCHWARZMAN: My comment is just
17 brief. I'm really intrigued with this idea of DTSC
18 providing at the opening of the product profile a
19 conceptual model that's pictorial, that summarizes the
20 information that DTSC has gathered for the priority
21 product and the pathways that the Department thinks is
22 relevant, and then that becomes the template that anybody
23 submitting an AA uses and makes alterations on, and adds
24 information or says, no, this pathway isn't relevant and
25 provides this rationale or provides additional information

1 about other exposure pathways or other ways that the
2 products is used or how it's disposed of or some -- that
3 that becomes the kind of repository of the lifecycle
4 information about this product.

5 And in that way, I think it's an interesting sort
6 of sharing of the responsibility for kind of curating that
7 formation, that the Department puts out with the profile
8 how you could envision this first draft of the conceptual
9 model, and that you got a lot of feedback in a way from
10 all of the users who are submitting AAs as sort of
11 revisions to that conceptual model. It's intriguing to
12 me. I think it could be really informative.

13 CO-CHAIRPERSON FONG: Thank you.

14 Helen.

15 PANEL MEMBER HOLDER: So I guess the question was
16 what do practitioners do today? And so I just thought I'd
17 answer that from what we do.

18 This step would be what we would -- where we'd
19 put it in our process would be in the lifecycle thinking
20 part. So this is what we would call lifecycle thinking.

21 And so just -- I said just practice would be a
22 hazard screen first, where we look at a set of
23 predetermine endpoints, hazard topics that we would
24 then -- then after that would do other analyses like this.
25 So just in terms of, like I said, practice -- the question

1 was what's one -- one practice is to do it that way. So
2 we get there, but we don't necessarily start there. And
3 the thinking behind that was to look under all the hazard
4 rocks -- not all the rocks, but to make sure that we
5 weren't sort of overlooking a hazard. And so we right now
6 use GreenScreen, but you know, we could conceivably expand
7 that, you know, for, in particular, aquatic.

8 But the idea would be that we do a hazard first,
9 we do lifecycle thinking, which is I think very similar to
10 the conceptual model, and then based on that finding, then
11 we could do something. And I want to be really clear,
12 that that is the -- that the lifecycle thinking is not
13 exposure scenarios, which is -- which happens later after
14 this.

15 So that's just like I said, just answer the
16 question of what's in practice. That's one thing. We
17 find that that's very efficient, because we can take
18 things off the table based on hazard, and don't have to
19 invest anymore time, and then we can apply the conceptual
20 model, which is relatively time efficient and resource
21 efficient from a staff perspective to show where do we
22 need to do the deep dive into doing an exposure assessment
23 or doing a lifecycle.

24 So one thing I don't see here is the lifecycle
25 issues that we would actually do in addition to this

1 conceptual model. So we would actually go beyond this in
2 our lifecycle thinking step. Again, just to answer that
3 question.

4 CO-CHAIRPERSON FONG: So I have Don, Cal, Mike,
5 Ann, and Kelly on the list. Starting with Don.

6 PANEL MEMBER VERSTEEG: Okay. I want to agree
7 with both Meg and Helen. I think this is a start. So
8 there are multiple life stages, lifecycle stages. You
9 know, obviously the seal coat doesn't magically appear in
10 the bottle on the edge of the driveway for you.

11 (Laughter.)

12 PANEL MEMBER VERSTEEG: But I do think it's
13 important that a draft be put together and be proposed put
14 forward by DTSC, and then vetted with industry or the
15 regulated community, because that's where you're going to
16 learn a lot. For instance, being someone that applies
17 this to his driveway, what this is missing is the dermal
18 exposure, which can be significant, especially the younger
19 the applicator. So my children come out and, you know,
20 help me, whether I want them to or not.

21 (Laughter.)

22 PANEL MEMBER VERSTEEG: So there are other
23 components that -- and especially when you get to the
24 trucking of not only the container but the raw material
25 itself in the tanker trucks before it gets to the place

1 where they bottle it. You know, only industry is really
2 going to know, I would think, maybe others, what goes on
3 at that point, and how much exposure there is and what's
4 enclose and what's not, and how much they lose, et cetera.

5 So I think it's going to be an iterative process,
6 but I think it's a good point to start with something,
7 recognizing that any alternative you may have left
8 something off the diagram on purpose or have a little tiny
9 arrow going some place that turns out to be a big arrow
10 with an alternative. So it's not -- you don't have just
11 one that -- you have multiple diagrams for the LCA
12 aspects, and then you have other diagrams for your
13 alternative -- or alternative chemicals.

14 Thank you.

15 CO-CHAIRPERSON FONG: Thank you.

16 Cal.

17 PANEL MEMBER BAIER-ANDERSON: I want to respond
18 to something Don just pointed out. I don't want to worry
19 people by thinking that they have to generate 60 different
20 diagrams. I think if you have a generic diagram, you can
21 deal with similarities and differences in a narrative,
22 too, right?

23 The other thing is I think, like when you see
24 these nice pictorial conceptual models, you know, you want
25 to -- like, well, how do we capture everything in the

1 pictorial?

2 And so on the one hand while we don't need 60
3 different, we may need a couple different ways of
4 capturing different components of concerns across the
5 lifecycle. So, like, I just didn't -- I didn't want us to
6 go down that path thinking that everything needs a
7 different picture. You can have one picture in variations
8 in a text.

9 The other point that I want to make is just from
10 DfE's experience, for our experience, that the -- in
11 addition to the industry input, it is often useful to get
12 input from the academics and the NGO community, and
13 through that, public consultation. I think that -- that
14 will be really valuable.

15 CO-CHAIRPERSON FONG: Cal, thanks very much.
16 Mike.

17 PANEL MEMBER CARINGELLO: And I agree. I think
18 it's very important that DTSC start a conceptual model.
19 And it can be a pictorial, or as Karl was saying, that
20 they've kind of covered that with the profiles. I think
21 you can go either route. The pictorial ones are very
22 helpful, and -- but I think, and I've heard this said a
23 few times, and Cal most recently, that you need them to be
24 iterative and have the right parties jump in and add to
25 that.

1 And I want to make sure that people know it's not
2 just DTSC who's going to put this conceptual model up.
3 They're going to propose the initial start, here's why we
4 think it's important. But you really have to get the
5 responsible entity to take ownership of part of that and
6 not just because you've got the no news, and oh, I agree
7 with DTSC, but you've got misuses of a product that might
8 be extremely relevant factors.

9 A company I used to work for, we had a product
10 that would you never think of someone using as a
11 consumable, because it wasn't. It was a disposal. It was
12 an article. But as soon as we would change a formula very
13 slightly, we would get consumer complaints. Why does it
14 taste different?

15 (Laughter.)

16 PANEL MEMBER CARINGELLO: You know, so would DTSC
17 have any clue that that type of product there was an oral
18 pathway? But obviously there is, and it might be that it
19 become a relevant factor for you to consider.

20 And so you need, not only the responsible entity,
21 but I think we need to be very clear in our guidance and
22 going out that there are other parties of interest. You
23 know, I think we need to reach to the manufacturers of the
24 chemicals of concern that are now linked, so the methylene
25 chloride manufacturers, and say what -- if you look at

1 this conceptual model, where do you see methylene
2 chloride, or any of these other things, where do you see
3 them impacting that we might not have caught on to?

4 That you might see a pathway that is totally
5 unexpected, you might want to look at the hazardous waste
6 facilities and say, okay, we're looking end of lifecycle
7 now. If you see sealant coming in -- sealant cans -- how
8 does that interact in your facility? And we need to be
9 able to capture that.

10 So I think we open the conceptual model up and
11 maybe it's at the workshop level, and maybe the workshops
12 turn into two days instead of one day, and say how do we
13 make this conceptual model more robust, so that we capture
14 all the pathways and we truly develop appropriate relevant
15 factors. And then we go back and take our guidance and
16 make it stronger, so that the responsible entities can put
17 together consistent AAs, so that when it comes time for
18 DTSC to evaluate them, they're looking at everyone
19 starting on the same page.

20 CO-CHAIRPERSON FONG: Thank you, Mike. I have
21 Ann, Kelly, and Ken Geiser next.

22 Ann.

23 PANEL MEMBER BLAKE: Thank you. So I'm trying to
24 think of how best to display this. Maybe I'll just talk
25 you through it, because you can sort of see that I've got

1 a table here. This is responding to both Kelly and
2 Helen's question about how do we use this in practice?

3 And I was thinking about the most developed model
4 that I'm currently working with. And I can share this
5 with all of you later, but this is still very much in
6 development. This is the framing for the BizNGO plastics
7 score card, which we're renaming at as we speak. So it
8 may be the chemical footprinting of plastic.

9 But I just wanted to give you an idea of the
10 kinds -- of the scale of which -- pardon me -- the scale
11 of which we're considering lifecycle impacts and how you
12 might incorporate principles in. And I this is another
13 way also to visualize a conceptual model of a lifecycle.

14 So just so you have an idea, let's see if I can
15 remember this. So on this side --

16 (Thereupon a phone rang.)

17 (Laughter.)

18 PANEL MEMBER BLAKE: What key is that in Helen?

19 (Laughter.)

20 PANEL MEMBER BLAKE: So this is observing a lot
21 of work that's sort of conceptual -- capturing a whole lot
22 of work that was done. So there was a lot of work
23 developing the principles for sustainable plastics, and
24 that's what's on the left here. And then across the top
25 is the series of the lifecycle pieces of this.

1 So we've got polymer manufacturing, if I remember
2 correctly -- anyway, adding additives. But you get the
3 idea that you could take the larger bins of lifecycle that
4 we were talking about yesterday, manufacturing, use, and
5 disposal, and then make that a slightly more finer -- a
6 finer grain look as you look at a different priority
7 product.

8 And then I think these principles on the side are
9 either your giant -- the big bins of impacts that you're
10 looking at, or, you know, what is it that you want an AA
11 to generate for you.

12 The reason that we had this side was to focus on,
13 you know, we're developing the method for screening the
14 hazard of the process chemistry of plastics, but that's a
15 different goal. So I just wanted to give you another kind
16 of framing of how we would go about putting a conceptual
17 model together.

18 CO-CHAIRPERSON FONG: Thank you, Ann. Kelly,
19 next.

20 CO-CHAIRPERSON MORAN: I'm wondering if the staff
21 could bring up the flowchart figure. It's actually the
22 final page of that flowchart. I don't know if you have
23 them all here or not. This is the one -- okay. We only
24 have one of them. Okay. Well, let's just use the one.

25 DEPUTY DIRECTOR WILLIAMS: Go up one.

1 CO-CHAIRPERSON MORAN: Go up one, please. Thank
2 you, Corey.

3 DEPUTY DIRECTOR WILLIAMS: But the GRSP members
4 should have all three figures.

5 CO-CHAIRPERSON MORAN: Yeah, it doesn't really
6 matter which one. I just wanted to put that on the screen
7 briefly to kind of point out that not -- my experience in
8 doing these is mostly doing this kind of thing, where you
9 wind up breaking it out into pieces and then kind of
10 charting things through. So it's -- because I'm not an
11 advertise, and don't think like an artist. It's actually
12 easily to go through the different parts of the lifecycle
13 and start thinking about that.

14 And of a lot of conceptual modelers will use --
15 there's only one place here where there's a dotted line,
16 but it's very common for folks to put little dotted lines.
17 We're not sure if something is big or small. And I
18 also -- but mostly I want to just put that out there to
19 say it doesn't have to be that hard. And what's really
20 cool about something like this is that you can start
21 rearranging it and having a conversation around it. And I
22 just can't tell you how much I support the things I've
23 heard here about the idea of putting something on paper
24 early, and using it to facilitate conversation, because
25 that's the thing that -- that's actually the real reason

1 that I was putting forth the idea of a conceptual model to
2 help with this process.

3 What -- I kind of hate putting the burden on
4 DTSC. I really like the idea of the manufacturers
5 understanding their products, but I'm seeing an advantage
6 to what the other panelists have been saying about getting
7 something out there early during that regulation
8 development process, because I think it will help people
9 start to understand what the picture is about products and
10 alternatives.

11 And I've worked with some pretty unsophisticated
12 business types, who are really wonderful people, but
13 aren't environmental managers, are not environmental
14 professionals of the kind of folks who are at this table,
15 because small companies can't afford to have the kinds of
16 experts that are here on their staff.

17 And so putting something out there really helps
18 people better understand why it is this crazy thing is
19 happening with their product.

20 So the other thing I think is really important
21 here is that conceptual modeling was new to me. Only five
22 years ago, I was scared of the term, as I told you all the
23 other day. So I really want to emphasize that I think
24 it's going to be an important part of developing the
25 practice of doing AAs, so it's a professional development

1 thing. And everybody is doing in their brain, at some
2 level. I've heard I think every single person in this
3 room talk about something that is clearly a conceptual
4 model.

5 Environmental folks, people -- environmental risk
6 assessors tend to do it more. I think Done and I and
7 Becky and I know there's some people here who've really
8 had a lot of experience with that kind of thing. So it's
9 something -- this is an example of something that I think
10 that, as a group, we're going to have to work on as we
11 grow the profession of doing AAs. There are a number of
12 other things that need to be worked on, but that's one.

13 And finally, I -- okay. Just two more minor
14 points. It definitely changes with the alternatives. A
15 couple people have said that. And so we need to be really
16 careful about putting something out in the conversation
17 for the product and not recognizing that when we start
18 looking at alternatives, there may be -- depending on what
19 those alternatives are, it's not just a sub -- a chemical
20 substitute, but some other approach. It could be a very
21 different conceptual model. And if it's a chemical
22 substitute, there still could be some new pathways that
23 are introduced by the chemical properties.

24 And then finally, the key -- my experience with
25 this, in addition to facilitating the conversation and

1 identifying gaps in which it just completely excels as a
2 tool. You can so easily get that clear scientific
3 conversation going, which is really scientifically
4 helpful.

5 It helps us prioritize where there aren't data
6 available or where we haven't looked very hard for data,
7 where to really press the boundaries to fill data gaps,
8 and try to really pull the thread a little more in some
9 area. So in looking at the whole list of relevant
10 factors, it's too big. And so we're all trying to figure
11 out how to narrow it down, but sometimes we need to say
12 these are the areas that look really important and let's
13 pull that thread a little more. Let's think about it a
14 little harder. And that's actually what the AA process
15 here is designed to do.

16 And when it comes to decisions, the same thing, a
17 conceptual model will help us figure out which of the
18 relevant factors probably deserve the highest weighting in
19 the decision making process. And I know we're not at that
20 point in the conversation right now, but the same tool
21 plays all the way through the conversation.

22 So thank you.

23 CO-CHAIRPERSON FONG: Thank you very much, Kelly.

24 I have Ken Geiser, Meredith, and Becky. And then
25 I'm going to cut off the conversation and check in with

1 Bill to see if he would like to make a comment.

2 PANEL MEMBER GEISER: So I'm perplexed. Thanks.
3 I'm not on.

4 (Laughter.)

5 PANEL MEMBER GEISER: I'm perplexed by the
6 discussion. And it's interesting to me trying to sort
7 through what I'm thinking of are the values of this, and
8 potential pitfalls of this.

9 So I have to start off by sort of saying that
10 I -- conceptual diagrams and all, I feel very comfortable
11 with, I like. And I like graphics and all that. You
12 know, I like to be able to see things, so I like that part
13 of this. And when I think back to the early training we
14 did, or the training we still do, on toxicity reduction
15 planning, for instance, one of the first steps is to
16 develop a conceptual diagram of the production process, so
17 you can see the inflows and outflows and what's going on
18 and what -- where the heat needs to be put in. Very
19 traditional engineering kind of diagrams.

20 But they become the basis for then being able to
21 look at a substitution in the process and try to figure
22 out what's going to be impacts and all. So to the degree
23 that this diagram here or, this diagramming, I should say,
24 is a prelude to doing an alternatives assessment, I think
25 it's very good.

1 Then I was sort of trying to listen to Karl a
2 little bit on his description of the seal coat one, and
3 there was this whole diagram. To me, this diagram looked
4 like -- I don't know where the diagram came from, so it's
5 totally out of context for me, but it looked to me like
6 the kind of diagram you do when you're doing an exposure
7 assessment. You're looking at all the different pathways
8 and -- et cetera.

9 But I wasn't thinking we were doing exposure
10 assessments. So that kind of derailed me. I thought this
11 is an exposure assessment diagram, but I'm not doing an
12 exposure assessment here. I'm doing -- mostly I'm working
13 on hazards. And I'm -- and if, in fact, we put this into
14 an alternatives assessment, I think it would make some
15 practitioners think that you actually would be doing all
16 kinds of exposure considerations in order to do this,
17 which I don't think we've said we are intending to do.

18 So then I said, okay, let's get rid of the seal
19 coat, because it's making -- it's deluding me into
20 something else. So then I went to Meg's comment. Well,
21 if you just do a diagram because -- if the Department does
22 a diagram and -- it's a way of identifying what are the
23 most relevant factors, that seemed to be important. It
24 was a way of, well, you could do a diagram and sort of --
25 well these four here are more important than those three.

1 We're going to try to focus on that. So if the diagram is
2 of that value, I think that is also good.

3 I also think the diagram could be very valuable
4 in -- or with a conceptual modeler or however you want to
5 say it, can be very helpful in teaching the subject of
6 alternatives assessment to, you know, have a workshop in
7 which you're putting up a conceptual model of how a
8 chemical is used and how it's -- how -- what its lifecycle
9 is, Don suggested, where it came from, where it goes to,
10 and all of that. For some people, that's reasonably a new
11 way of thinking. And to see it graphically can be a very
12 explosive way to see it. They're kind of, oh, wow, I
13 never even thought about all that kind of, where goes the
14 waste, and all that kind of stuff like that. So I think
15 that's really another valuable tool.

16 Where I think there's a danger here is thinking
17 that this is actually part of the alternatives assessment.
18 I don't -- I think that if it becomes part of the
19 alternatives assessment, we're burdening -- maybe I'm just
20 sort of reflecting on what our conversation in the latter
21 part of the afternoon yesterday of realizing that one of
22 the things we need to be thoughtful about is not making
23 these alternatives assessments overly complex. And if
24 we're asking, what I would warn us against is making a
25 conceptual model part of the alternatives assessment

1 itself.

2 In other words, using it to build an alternatives
3 assessment I like, but I don't want to suggest that we
4 actually make it a part of it, because I think the message
5 that I'm beginning to feel about the alternatives
6 assessment is we need to be careful to be parsimonious
7 here, to make sure that these things don't grow in scale
8 to become some huge burdensome thing, and that has to do
9 with the discussion we're about to have in a little bit
10 here about what are the relevant factors again.

11 So, I'm sorry, I'm not completely clear in my
12 thinking here, but those are some of the things that are
13 going on in my mind as I think about it.

14 CO-CHAIRPERSON FONG: I have Meredith, Becky, and
15 then coming back to Helen. But before I do that, since
16 it's almost 1:00 o'clock on the east coast, let me just
17 check in with Bill Carroll, because his lunch break is
18 over at 1:00.

19 Bill, are you still there?

20 PANEL MEMBER CARROLL: I am, Art. Thanks very
21 much. And I have a short comment. It's -- I've been
22 following some of the slides. I think there may have been
23 some other things that weren't on the website that I don't
24 have, so I'm kind of guessing at this.

25 I think, you know, in a way it kind of matters

1 how you think. If you think in pictures, if -- generally,
2 I think it would help you to breadboard out the process,
3 not unlike what was shown here. I appreciate Ken's point
4 about the seal coat thing being -- looking like an
5 exposure assessment. And yet, depending on the situation,
6 that may be helpful to you in understand the way a product
7 is used.

8 I don't know that I have a tremendous amount to
9 add to it. I do think that most people, when presented
10 with this first opportunity to do an AA, I can't imagine
11 them doing anything other than drawing out some kind of a
12 flow diagram as to how you expect the information to come
13 together. And the reason for bringing that up is that
14 those kinds of things that they sort of become part of the
15 process or part of the record may be helpful to others who
16 are following in their path. And that's kind of what, you
17 know, goes through my mind in building a record of these
18 things as we go.

19 That's about the only semi-cogent thought that I
20 have, at this point. Thanks for interrupting, Art.

21 CO-CHAIRPERSON FONG: No, thank you very much,
22 Bill.

23 I have Meredith.

24 DEPUTY DIRECTOR WILLIAMS: I want to echo a lot
25 of what I've heard about the iterative nature of doing

1 these conceptual models or using them. As you learn more,
2 you continue to flesh these ideas out, but I also
3 appreciate that it was pointed out that the example we
4 used is not adequate in terms of capturing the full
5 lifecycle of the product.

6 And that made me wonder, yesterday we touched on
7 the ideas of functional use in use patterns, and we only
8 touched on them, and I know folks have a lot of thoughts
9 about those. And I wondered -- and this may be too big a
10 chunk to bite off, but what's the -- so maybe it should go
11 in the parking lot, but what's the relationship between
12 this conceptual model and then thinking about functional
13 use or thinking about use patterns? So it was really that
14 question.

15 CO-CHAIRPERSON FONG: Becky.

16 PANEL MEMBER SUTTON: This is a little extension
17 to Kelly and Ken's comment about sort of the education and
18 training that might need to happen if we use a lot of
19 conceptual models, which is that if DTSC were to provide
20 an example model for a particular chemical, it might be
21 relatively easy for folks to tweak that model for a
22 drop-in replacement. But for something that would require
23 reformulation or an entirely different -- an alternative
24 that's an entirely different process or product, that gets
25 a little more complicated. So that's just an additional

1 thing to think about.

2 CO-CHAIRPERSON FONG: Thank you, Becky.

3 Are there any more comments or questions before
4 we go to the second round?

5 Okay. In that case, I have Helen and Kelly. And
6 I'm going to ask you to make your comments pretty --
7 fairly short and succinct.

8 PANEL MEMBER HOLDER: So I just wanted to weigh
9 in, in support of the idea of the Department providing
10 that initial scoping or model or whatever it is with some
11 safeguards though. So I think that you do need to do the
12 refinement in workshops. That just, to me, seems like you
13 have to do that.

14 The other -- there are two other things. So in
15 safeguards, this might be something. So doing this --
16 doing a conceptual model doesn't tell you necessarily what
17 hazard topics will get selected. And so there might be
18 some value in having a baseline set that would have to be
19 considered in all assessments.

20 And just some safeguards that something important
21 doesn't get overlooked. That's Just something to think
22 about.

23 A different safeguard from a practical
24 perspective for making a compliant report. 69505.7
25 specifically requires that every factor, exposure pathway,

1 and lifecycle segment, if it's determined to not be
2 relevant, you have to explain the rationale and identify
3 the findings over the supporting information for that
4 determination.

5 So what I would suggest that we -- that you
6 consider is to allow, if the Department creates that
7 conceptual model, that does an exclusion of some type,
8 that that be allowed as a justification or a
9 substantiation within the report. So if the Department
10 says that we don't believe aquatic toxicity is relevant --
11 they wouldn't do that, but let's just say for the sake of
12 argument that that was what they said, or sensitization,
13 that as the assessor, when I make my report up, I can say
14 the Department has said that this is not relevant and I
15 don't have to redo that assessment.

16 CO-CHAIRPERSON FONG: Thank you.

17 Kelly.

18 CO-CHAIRPERSON MORAN: Thank you. I just wanted
19 to make a couple of quick comments. And one is to Ken's
20 point about whether doing these is burdensome. My
21 experience with these is they actually simplify stuff a
22 lot for the reviewer. And so part -- and that they're not
23 that hard to do.

24 So, in fact, not only do they help you get it
25 right as the person working on it, but for the reviewer

1 they're a miracle in terms of time savings. When EPA's
2 Office of Pesticide Programs started doing these little
3 flowcharts, in their risk assessments and their problem
4 formulations, it's a little different thing, but
5 environmental risk assessment, we can learn from that. As
6 soon as they started doing these drawings, it cut review
7 time down for me. I could scan through and immediately
8 see if they caught the relevant pathways, if they're were
9 thinking about the relevant factors, in terms of the
10 things that I was looking for.

11 So we have to think about DTSC's time here as
12 reviewers. That's something that's going to really, I
13 think, save them a lot of time. So it doesn't mean it has
14 to be fancy though. The low tech stuff works great.

15 And then the other to Meredith's question about
16 functional use and use pattern. My experience is that
17 functional use is very unique. I mean, there's a whole
18 lot there. But use patterns, you can create generic
19 starting, conceptual models. And there are certain use
20 patterns where you're going to have certain kinds of
21 exposures, so certain kinds of endpoints are going to pop
22 up for some use patterns that -- the use pattern of it's in
23 a box, it's electronics, it's used in doors is really
24 different than the use pattern it's painted on the walls
25 of a building outside.

1 And I think eventually as this practice develops,
2 that they'll there will probably wind up being a lot of
3 use patterns or places in the lifecycle where there's the
4 same thing. There's a mining conceptual model. There's
5 various kinds of extraction conceptual models. There's
6 things all the way through. I think we're going to start
7 developing those things.

8 And then it will be easier to take the
9 environmental fate properties, and the chemical properties
10 and, say, for this chemical, at this point, with this
11 conceptual model, here are the things I'm most worried
12 about, and pull those together and roll them up in the
13 selection of relevant factors.

14 Thank you.

15 CO-CHAIRPERSON FONG: Thank you, Kelly.

16 Cal.

17 PANEL MEMBER BAIER-ANDERSON: I just had to like
18 react to the idea that the conceptual model can help take
19 thinks off the table. Like I think in theory, yes, but
20 then I worry that if sensitization isn't an issue for the
21 chemical of concern, it may be for the substitute. And
22 so, you know, I think strategically a long -- I agree
23 conceptually that along the lines of if you're
24 substituting a petroleum based chemical for -- with
25 another petroleum based chemical, then maybe certain

1 things might be off the table, but you have to examine the
2 alternatives to see if anything goes back on the table.

3 It's hard to -- yeah, we're all looking for
4 shortcuts to streamline, but -- like the whole purpose is
5 that avoiding unintended consequences.

6 PANEL MEMBER HOLDER: Can I respond to that?

7 CO-CHAIRPERSON FONG: Let's have Julia.

8 PANEL MEMBER QUINT: Yeah, it's related. Yeah, I
9 was a little bit -- I'm getting a little bit confused
10 about what DTSC's role would be initially. I mean, I
11 agree with Meg that if you have a conceptual model, and
12 with Ken, and the relevant factors are -- you know, DTSC
13 says something about what they think is relative -- the
14 relative factors are for that particular priority product.

15 But for the alternatives, I mean, does that mean
16 that DTSC has to envision this with the alternatives as
17 well? Because they will -- you know, it might be
18 different. So I don't want to -- it's important for DTSC
19 to maybe comment on relevant factors for the priority
20 product. And if you have a drop-in substitute, that's
21 petroleum based and very much like that, then the
22 comparative, you know, analysis will be very similar.

23 But, you know, all holes are not barred when you
24 go to the alternatives. And we want to encourage people
25 to be somewhat creative or whatever about the

1 alternatives. So I think there's a danger of locking into
2 that.

3 And I also want to comment on something that
4 Helen said, which I think was very important in the way
5 that their practice is or some practice that she was
6 mentioning, of doing the health and environmental hazards
7 first, and then seeing what drops out from that, and then
8 proceeding, because I think we do have to -- I'm -- we're
9 caught up in relevant factors, and I'm still trying to
10 wrap my brain around the beginning of the, you know,
11 health and environmental hazards, which I think are why
12 we're doing this initially. And not that the relevant
13 factors aren't important.

14 They're in the regulation. We have to do them,
15 but I don't -- I would like to see some -- you know, how
16 we're starting off, and then coming in with the relevant
17 factors, as opposed to -- and nobody is saying we're
18 leading with them, but a lot of emphasis now is on -- I
19 guess to just make sure somewhere in the guidance that it
20 is clear what the baseline health and environmental hazard
21 assessment looks like, and then how this fits in as a part
22 of that as opposed to having people go down, you know,
23 this windy road of lifecycle with something that has some
24 inherent hazard in it, that, you know, we want to get rid
25 of. And maybe that's clear, but in the discussion it

1 became a little muddled for me.

2 CO-CHAIRPERSON FONG: And, Helen, you had a
3 comment.

4 PANEL MEMBER HOLDER: Just responding to what Cal
5 was saying. So could we just basically have -- start with
6 their conceptual model and then ask what's changed?
7 Because that's what we do in life cycle thinking. That's
8 exactly what we do is that we start out with, well, this
9 is what we've mapped out for the original. Based on what
10 we know about the alternatives, is there anything that
11 might be different?

12 And sensitization is a particularly interesting
13 one, because we have seen that as a case, right? So we
14 got rid of a carcinogen which is fantastic. Yea. And
15 it's a sensitization issue, and it's something that you
16 could touch. So we actually -- that triggered -- but you
17 had -- we didn't go back and build a new model. We took
18 the original model and just at each sort of major thing,
19 we said, okay, is there something different in resource
20 uses. Is there something different here. And that -- the
21 AB comparison, because -- and that's -- that actually, I
22 think, works with the regs, because the regs require --
23 part of that four part criteria is it has to be a
24 meaningful difference or a significant difference. And
25 that's been our -- how we did it in the pilot and it's how

1 we do it in our own practice as well, is that we never go
2 back to the ground for the alternative. We start as an AB
3 comparison.

4 CO-CHAIRPERSON FONG: Helen, thank you.

5 I have Mike. Let's let Mike have the final
6 comment on this particular discussion on conceptual
7 models.

8 Mike.

9 PANEL MEMBER CARINGELLO: And I think we don't
10 want to lose sight of the fact that with relevant factors
11 that when the Agency set up the profile, they gave us here
12 is a product, here is a chemical, and here is why we
13 picked it. So we don't want an alternative assessment to
14 come back and say, okay, we picked this alternative, and
15 it's better because, you know, we didn't list
16 sensitization, but there's less sensitization with this
17 new material. But the health impact that we picked at
18 the -- at the start it's carcinogen. Oh, they're
19 equivalent here, and so that carcinogenic factor is why
20 they picked that combination. And so we found an
21 alternative that's less hazardous for other reasons, but
22 that first reason was the real relevant factor that caused
23 the selection.

24 I think it needs to be the primary relevant
25 factor. You can't go pick an alternative that ignores

1 that that was our concern in the first place, even though,
2 yeah, I absolutely agree that you've got these other
3 factors and it's a better player, but we haven't addressed
4 the initial problem.

5 So, you know, I think there's a lot of things. I
6 think there's a lot of good discussion here, but I want to
7 make sure that we stick to the fact that here was a
8 relevant factor that was addressed in the profiling, and
9 that really needs to be something that is keyed in. And
10 it doesn't mean that the other pieces, you know, we
11 ignore, because I agree with what Cal said, that you don't
12 want to pick something that there's a whole new hazard
13 that is added in, because that didn't exist before, but we
14 can't allow something to flow through that doesn't address
15 that profiled relevant factor.

16 CO-CHAIRPERSON FONG: All right. Thank you,
17 Mike. That was just an excellent discussion on conceptual
18 factors. And I hope that this discussion was useful for
19 DTSC.

20 So I think on the agenda we're due for a break at
21 this point, a 15-minute break. And then we'll come back
22 and continue our discussion on alternatives analysis,
23 following up on the second and third agenda item, which is
24 strategies for determining relevant factors and data gaps.
25 Oh, reminder of the Bagley-Keene requirements.

1 (Off record: 10:10 AM)

2 (Thereupon a recess was taken.)

3 (On record: 10:33 AM)

4 CO-CHAIRPERSON FONG: Welcome back. We're going
5 to continue our discussion on alternatives analysis.
6 There's again some of the things we want to cover in the
7 remaining time that we have are, one, the strategies for
8 determining relevant factors, and, data gaps. But
9 actually before we do that, I understand that Lynn Goldman
10 would like to provide us with some information about the
11 phase one of the AA and how that connects with some of the
12 comments that were made during the previous discussion, in
13 terms of conceptual models and other requirements.

14 Yes, Meredith.

15 DEPUTY DIRECTOR WILLIAMS: So I just -- I want to
16 introduce Lynn a little bit. Lynn has been the attorney
17 who's helped us through the priority product selection,
18 and she's been a very integral member of the team, and
19 came up to speed incredibly fast. She jumped into the
20 team pretty late in the game. And it's just a public
21 opportunity to thank you for everything you've
22 contributed, and thank you.

23 STAFF COUNSEL GOLDMAN: Thanks Meredith and
24 thanks, Art, for giving me this opportunity.

25 Just something, you know, I've been hearing is

1 that you guys are saying there needs to be an opportunity
2 to check in with DTSC about relevant factors and scoping
3 and making sure that we're working with responsible
4 entities to make sure that they are looking at the right
5 things, so we don't have this gotcha situation at the end.

6 So I thought it would be helpful to go through
7 just the first stage of the alternatives analysis, what
8 leads up to picking these relevant factors, and then how
9 we're going to be looking at that.

10 So, you know, the first step of this first stage
11 is that they're looking at their product, the product
12 requirements, what they need, the functional and the legal
13 requirements that are applicable, and do they need a
14 chemical to meet those requirements in their product, is
15 it feasible to take the chemical out at all or is there
16 always going to be a chemical that are meeting those
17 requirements. So that's kind of the first step that you
18 have to be looking at.

19 And then the second step is to look at
20 alternatives that you might know are out there, that could
21 meet these requirements for your product. And so, you
22 know, at that point you're already looking at some
23 relevant factors, because you know that you need a
24 chemical or maybe you don't. You know that there are
25 these alternatives out there that might have other issues,

1 that have already been identified, because these
2 alternatives are in the market. So you get some relevant
3 factors there, but then you go to the third step and
4 you're looking at whether or not, you know, factor is
5 making a material contribution to adverse impacts.

6 And maybe if you're not going to use a chemical,
7 you're really almost going to be able to skip some steps
8 in there to say, well, there's not going to be exposure,
9 because we can take a chemical out. So, at that point,
10 you are already winnowing away some of the relevant
11 factors, but if you do need to use a chemical, then you
12 know you've added those relevant factors back in.

13 You're saying, okay, well, there's going to be
14 maybe some public health impacts or there's going to be
15 some environmental impacts.

16 So I think we just wanted to, you know, identify
17 that this is only the first stage. You're identifying
18 these relevant factors when you're thinking about
19 alternatives, and that you're going to submit a first
20 stage alternative analysis report, and we're going to say,
21 well, are these the relevant factors that we were
22 imagining, does it get to what we identified in the
23 profile, does it get to what we know about your potential
24 alternatives. Then we would approve that.

25 You go to the second stage and maybe you've done

1 more work on alternatives at that point, and you've
2 identified more relevant factors. And that's why, in the
3 second stage, you do have again identification of relevant
4 factors. So it happens twice. And I think that's
5 important to note that, you know, you have the first
6 stage. But as you go through it, you get to look at it
7 again, in case you see more of these -- the lifecycle --
8 sorry -- the lifecycle segments, and, you know, through
9 worshipping, through public comments a lot of things will
10 come out, and also through our own input on your first
11 stage AA.

12 So, you know, the relevant factors does come up
13 twice, so I think when we're saying, oh, it's hard to
14 identify relevant factors, and maybe more will come up,
15 that's why we are looking at it twice, and that's why
16 there's two stages to the AA.

17 Thanks.

18 CO-CHAIRPERSON FONG: Lynn, thank you very much.
19 And that really sets the stage for our continuation of our
20 discussion, which is on the strategies for determining
21 relevant factors.

22 Radhika, would you -- or, Corey, would you mind
23 putting that slide onto -- again, these strategies were
24 the strategies that we had talked about yesterday and that
25 were offered by various Panel members. And DTSC actually

1 was working overnight actually got them together, and so
2 Meredith is going to walk us through some of the concepts
3 that we thought were -- may be useful.

4 DEPUTY DIRECTOR WILLIAMS: So all we did here was
5 try to capture the conversation yesterday, follow up on
6 Ken's quick summary -- and I'm all right really. It's
7 worse -- it looks worse, because I tend to do that with
8 the mic.

9 So I'm just going to walk through them very
10 quickly. I'm sorry Julia that the phrase "fishing
11 excursion" stuck, but it's a lovely shorthand.

12 PANEL MEMBER QUINT: Very scientific.

13 (Laughter.)

14 DEPUTY DIRECTOR WILLIAMS: But just starting with
15 the chemical, gathering all the associated information,
16 and working from there. You know, we could put the entire
17 burden on the firm. Let the firm decide for itself what
18 the relevant factors are. I used Karl's phrase of show
19 your work to capture what that entails.

20 DTSC could set a minimum level, and then let the
21 responsible entity decide whether or not there are
22 additional relevant factors that should be considered.
23 Again, show your work.

24 I'm going to comment on this, because I think
25 that Bob made a note on this particular one, which is in

1 the eyes of DTSC, of course, the minimum level is what's
2 outlined in the regulations. And so that's -- I know
3 that's a default and it doesn't -- it may not be
4 satisfying to a lot of people, but, in fact, our
5 responsibility is to use the regulations as the minimum
6 level.

7 The fourth possible concept is the conceptual
8 models that we discussed. We hadn't had time to dig into
9 that yesterday. That's why spent some time on that this
10 morning. The fifth is similar to that third one, but, you
11 know, we do a lot of the legwork up front to identify what
12 we think are the relevant factors. Of course, part of the
13 challenge, as you'll see in the profiles, is there's so
14 much that we don't know that might make it hard for us to
15 capture relevant factors, but we could take a first pass
16 at it, when we do the designation.

17 And then, of course, rely on best professional
18 judgment and use rubrics, decision-making trees, rules of
19 thumb to guide which the relevant -- which relevant
20 factors need to be considered. So given that, we're
21 hoping that now there could be a discussion of the pros
22 and the cons of these different approaches, the strengths
23 and weaknesses, recommendations you have or caveats about
24 using anyone of these approaches, and what advice would
25 you give to the Department as we proceed in developing the

1 guidance around this.

2 CO-CHAIRPERSON FONG: Excellent. And I see the
3 flags going up already. And so what I want to do is just
4 remind us that the meeting is going to end at noon today.
5 And so we have perhaps -- we have until 11:30, because
6 we're going to also spend a little bit of time talking
7 about the next set of meetings and other types -- perhaps
8 subcommittee work.

9 So, let's see, I have Helen, Ken Geiser and Ann
10 Blake. So let's start with Helen.

11 PANEL MEMBER HOLDER: I have a clarifying
12 question both for Meredith and perhaps for Lynn as well.
13 So the original text of the legislation does have the A
14 through M, and so you have to consider that. The regs
15 expand that out to this extremely large list. Is it
16 necessary that the extended list, as a minimum, be
17 evaluated by the responsible entity, or can the Department
18 actually assume some of that responsibility for
19 determining relevancy.

20 So that A through M would be considered, but that
21 it's -- that Ken, is that a possibility within the way the
22 regs work? I guess that's why I'm saying it's just a
23 clarifying question. Is it a possibility within the way
24 the regs work for the Department to, say, decide that
25 something is less relevant than something else and

1 then -- in like the conceptual model, and then have that
2 carry forward into what a responsible entity would do, and
3 therefore have that factor have been considered -- it was
4 considered -- and the Department says we think it's not
5 relevant in this case, and then have that carry through,
6 or do the way the regs work require that every AA consider
7 the complete set every time?

8 STAFF COUNSEL GOLDMAN: I think the regs do
9 require that you look at all the factors, and I know on
10 our part, there's a real hesitancy to eliminating any
11 factors, because while we do know the product, the
12 chemical of concern, we can't anticipate what the
13 alternatives are. So, you know -- and this has been
14 discussed that it would be very problematic for us to
15 eliminate a factor for consideration or saying that it's
16 been considered, when we can't anticipate what the
17 possible alternatives are.

18 So, you know, I do think it would be counter to
19 the regulations to take any of those factors off the table
20 from any stage of the AA really.

21 DEPUTY DIRECTOR WILLIAMS: And then the other
22 thing I return to is the fact again there's so much that
23 we don't know. That we would be concerned about making
24 statements about what's relevant and what's relevant given
25 our knowledge gaps.

1 PANEL MEMBER HOLDER: So, I mean, just to sort of
2 circle back on this great discussion we had about
3 conceptual models though, does that take that off the
4 table as a possibility?

5 DEPUTY DIRECTOR WILLIAMS: You know, what comes
6 to my mind is what does consider mean, right? You have to
7 consider these things. And if consider is -- I think
8 there was a proposal that was put out this morning that
9 said considering is developing a high quality conceptual
10 model, and saying based on this conceptual model, you
11 know, the following relevant factors do not appear to be
12 significant, material. I don't know.

13 BRANCH CHIEF PALMER: I would just add putting on
14 sort of regulatory hat, because what I've heard out in the
15 community is a lot about how am I in compliance?

16 And I think it's -- I think, Helen, you used the
17 term looking under every rock. What I would say is that
18 you can look under a boulder and you don't have to look
19 under -- and if you decide that all of the rocks and
20 boulders in that field are not applicable, you just tell
21 us why.

22 PANEL MEMBER HOLDER: That's not the question
23 though. The question is where does the -- where can the
24 responsibility lie? So I like the idea of the Department
25 doing a conceptual model, but does that mean that, as a

1 practitioner trying to make a compliant report, that you
2 can accept that model as being apart of your justification
3 of why something has been excluded for consideration or do
4 you have the obligation under the regs to go through point
5 by point and explain in narrative form or with data as
6 opposed to saying why something is excluded or can you
7 just say well the Department said that's not relevant.

8 BRANCH CHIEF PALMER: No, I think it's the
9 responsible entity's responsibility to do that.

10 PANEL MEMBER HOLDER: Okay. That changes this
11 discussion, I guess.

12 BRANCH CHIEF PALMER: But I think that it's -- it
13 may not be as heavy a lift as -- in many cases as people
14 might think.

15 DEPUTY DIRECTOR WILLIAMS: So, for instance, you
16 jumped from that to the go point-by-point narrative,
17 right? And that -- there's some gray -- there's a
18 gradient between identifying a category of relevant
19 factors that based on a conceptual model may or may not be
20 relevant to developing an exhaustive narrative for each of
21 those relevant factors. And I think there could be
22 categories, there could be groupings, there could be
23 boulders that capture these things.

24 PANEL MEMBER HOLDER: But the responsibility
25 still lies with the responsible entity to account for

1 looking --

2 DEPUTY DIRECTOR WILLIAMS: Yes.

3 PANEL MEMBER HOLDER: -- at whatever level of
4 abstraction that they think they could get away with?

5 BRANCH CHIEF PALMER: Yes.

6 PANEL MEMBER HOLDER: But it's completely up to
7 them and the Department can't assume any of that
8 consideration.

9 BRANCH CHIEF PALMER: Well, I think that's
10 correct, but as Lynn pointed out, is that the structure of
11 the regs was to have an early point of phase one, for us
12 to affirm your assessment, and the workplan moving forward
13 for the AA. And that may not be as soon as you would like
14 it certainly, but I think ultimately it's on the
15 responsible entity.

16 PANEL MEMBER HOLDER: Thank you for that.

17 CO-CHAIRPERSON FONG: Thank you, Helen.

18 So I have Ken Geiser, Ann Blake, Tim Malloy,
19 Kelly and Julia. Let's start with Ken.

20 PANEL MEMBER GEISER: Okay. So thank you for
21 doing that, because I did it last night myself, and it --
22 we almost came out exactly the same. Although, I gave
23 them names, cute little names. And I'm more than happy to
24 add the names to it.

25 But let me just step back a minute, because it is

1 relevant to what Helen just asked as well, and it seems to
2 me --

3 CO-CHAIRPERSON FONG: Ken, sorry for
4 interrupting. Would mine turning on your mic and/or
5 moving it closer.

6 PANEL MEMBER GEISER: How is that?

7 DEPUTY DIRECTOR WILLIAMS: Better.

8 PANEL MEMBER GEISER: If I do any closer, I'll
9 chew it.

10 I think, you know, haunting us in this entire
11 work is something called no regrettable alternative or --
12 what's our word?

13 PANEL MEMBER HOLDER: Regrettable substitution.

14 PANEL MEMBER GEISER: Substitution. No
15 regrettable substitution. And the reason why I think it's
16 haunting us is that it implies that you would look at
17 everything, because it is just possible that there might
18 be a regrettable substitute in the one factor you didn't
19 think about. And as I -- I was just talking to
20 Caroline -- even to the extent of the unknown factors that
21 aren't even things that we currently think affect us could
22 still lead to some kind of regrettable substitute.

23 So obviously, there's an incentive in our work
24 for total comprehensiveness and for total -- a huge
25 workload. So it seems to me this question about how do

1 you slice out something called relevant factors is a way
2 to back out of that in a way that is defensible, that we
3 can kind of say we didn't look at every last thing 80
4 times whatever Helen's 12 lifecycle points were or
5 whatever, but we looked at the relevant factors. And we
6 need to find a way to tell DTSC and the responsible
7 parties that they have a basis for determining what the
8 responsible -- what the relevant factors are.

9 So I think what we have here is a set of
10 strategies for doing that. And I like the idea of laying
11 them out and beginning to debate them. I think this is
12 one of the things that was making yesterday a little
13 difficult I think is we didn't have something to look at
14 and go like, oh, that -- well, this is more than that.

15 And, as I say, I'm not going to go through these,
16 because you did such a great job of it. And I really
17 applaud that.

18 I did add one more and it's a modification of
19 this, because I'm not sure that all of these are
20 necessarily distinct, that they can overlap, or be used
21 differently. But the one that I think that we ought to
22 include here is something which I might call a staged
23 approach, in which you have a certain number of relevant
24 factors that you look at, and then -- and I think Helen
25 said she would look at the health impact factors first,

1 and then there would be another set that follow that, such
2 that there are -- there's some primacy to which factors
3 you look at first, and then which factors you look at
4 second and third, because you may get a lot of diminishing
5 returns.

6 If you're trying to make a decision about whether
7 an alternative should continue to be looked at, and you
8 can knockout that alternative pretty early by having just
9 taking one set of relevant factors, then you don't have to
10 do analysis on all the others. And I think that's what
11 Lynn was suggesting a bit with that first stage, second
12 stage idea. But it might be one more to add to this set
13 of strategies.

14 But just going down through them, there's the
15 fishing trip, there's the kind of open source, there's one
16 in which is a DTSC base level, there's one that's kind of
17 tailored to the products, and then there's kind of this
18 nice thing, which you call just best professional
19 judgment. But I like that. Please continue with that.
20 It looks good.

21 CO-CHAIRPERSON FONG: Thank you, Ken.
22 Ann.

23 PANEL MEMBER BLAKE: Clearly, we have to do some
24 education on mic technique. The singers among us can help
25 with that a little later maybe.

1 So thank you. I do agree -- thank you, Ken, for
2 laying these out yesterday and for DTSC for putting these
3 up there, because it's much easier to have a discussion.
4 When I immediately looked at this and started to
5 immediately clump them and organize them differently.

6 So expanding on what Ken says, I think these are
7 not mutually exclusive. I see them in two large chunks,
8 which is kind of dividing up the responsibility a little
9 bit. Three through five is DTSC set some kind of
10 guidance. And I think those are different ways that DTSC
11 can provide that guidance, different ways of visualizing
12 them.

13 I say two and six, so each firm decides for
14 itself, and/or professional judgment is going to be a
15 little bit of something that you can work with with the
16 industry to develop, you know, what that might look like.
17 I think that's going to have to be a product specific
18 piece. And number one is frankly practically how it's
19 going to begin, how the process is going to begin.

20 I did want to react a little bit to something Ken
21 just said. I know this is a discussion we've had going on
22 about how alternatives assessment happens in practice.
23 Just a caution from our experience with the multi-criteria
24 decision analysis framework is that the doing and
25 screening with sequential factors, you can -- the hazard

1 is that you -- sorry, wrong unfortunate choice of words.

2 The concern is that you could drop out an
3 alternative too soon. So if you draw that hazard too tight.
4 Although, I absolutely respect and I see how HP's approach
5 has played out with the hazard screen first. So just a
6 consideration to keep in mind.

7 CO-CHAIRPERSON FONG: Thank you.

8 Tim.

9 PANEL MEMBER MALLOY: Thank you.

10 So I've given this a lot of thought because I was
11 really struck yesterday by Helen's pre-primal screen
12 comments about, well, what about all the lifecycle
13 segments and all the different factors going back? And
14 that really kind of resonated with me, and it got me
15 thinking about definitions.

16 So let me do a couple things here. One is I
17 think it's helpful to get back to kind of the source
18 material. And I was thankful how Lynn's comments really
19 helped with that. But what we're trying to figure out is
20 how to determine if something is a relevant factor or not.
21 And the definition of relevant factor is really is it
22 material in two different ways, right? Is it material in
23 terms of its contribution to some harm that we're worried
24 about? And does it make a material difference between the
25 priority product and the alternative we're thinking about?

1 And it's got to have -- we've got to have both of those
2 things, right?

3 So, to me, it seems like the big question is what
4 does it mean to be material and how do you figure that
5 out? That's what we're trying to deal with.

6 It also seems to me that Lynn is correct. I
7 mean, the regulations, you know, love them or hate them,
8 that's what's guiding everything. And they are pretty
9 clear, in that there has to be consideration of all these
10 factors. And they're pretty explicit that you have to
11 explain why you dropped some of the default -- you know,
12 the factors that appear in the regs out and why you left
13 some in.

14 So, in my mind, that means there has to be
15 consideration of everything, but that takes us to
16 Melissa's point, which is well what does it mean to
17 consider?

18 And I think that's where there's this room for
19 flexibility. Here's my concern, right -- so let me back
20 up for a second. So the angst that I'm feeling here, and
21 I think it's a reasonable angst is, it comes out of two
22 places, I think. One is that there's certain things that,
23 you know, you'll look at certain like lifecycle segments,
24 mining, or this or that, and it's going to be fairly
25 obvious to you as a professional that there's not a

1 material contribution, right, or that it would be
2 exceedingly difficult to collect quantitative data and do
3 a -- you know, a rigorous scientific assessment, but you
4 don't think it's necessary because based on best
5 professional judgment and experience, you're pretty sure
6 you know how that's going to come out.

7 And the question is -- that's get us back, so
8 what does it mean to consider? Do you have to do the full
9 blown, you know, turn under every rock, collect every
10 piece of data, you know, for each of these things? And I
11 think the answer to that has to be, no, you don't have to
12 do that, because it won't work. I think Helen is right.
13 It won't work if you have to do that.

14 So for me the big question is really, deciding
15 what do you have to do for each of these things. I don't
16 think these strategies answer that question? I love the
17 conceptual model stuff. I'm like -- like I'm a visual
18 thinker too. I love the conceptual model stuff. I don't
19 think it answers the question.

20 I think -- yesterday, I said the devil's in the
21 details. So I think the conceptual model is necessary,
22 but not sufficient, is that what you scientists say? So
23 for framing and thinking about what you're going to decide
24 about, I think the conceptual model is absolutely
25 essential and necessary. But then the hard part is once

1 you kind of framed it all out, is this material or not,
2 which gets you -- that to me is the kernel question. And
3 that's not going to get you there.

4 So I think that's what -- so I will go and -- I'm
5 sorry if I'm going on, but I didn't talk at all in the
6 first one trying to buildup some credit.

7 (Laughter.)

8 PANEL MEMBER MALLOY: I'm trying to be very
9 concise here, because I've given this a lot of thought.
10 So I think there's a -- I think what the -- it would be
11 helpful, and I can't like lay it all out here, because
12 this is just like rudimentary thinking. But here's what
13 my suggestion would be, and I'd be happy to kind of like
14 play with this outside, and maybe this would feed into
15 subcommittee suggestions.

16 But I think it's -- there are multiple influences
17 on this question of what material means. So one goes to
18 this question of data availability and data cost. So the
19 question of how far you have to go to show materiality, I
20 think, varies depending upon the availability of data and
21 the expense of the data or the analysis you would do with
22 that data once you had it.

23 And that's what I was trying to get at. I did it
24 inarticulately when I was just bounding on yesterday and
25 talked about well if you're going to do that analysis

1 what's the big deal, you're doing the analysis anyway.
2 What I was trying to get at is in a world where the data
3 is -- if there's a factor the data is fairly available and
4 it's not -- wouldn't be that hard to do now, what I think
5 of as your level of showing materiality would be different
6 than a situation where there's no data availability and
7 these regulations specifically accept the fact that you
8 don't have to go out and develop data, right?

9 So, for me, that would be a less rig -- you do a
10 less rigorous showing, but there would be more pressure on
11 the credibility and the rigor of your best professional
12 judgment, so show your work, that aspect of it, right.

13 Okay. The other thing that I think is driving it
14 materially is also this staged thing that Lynn and -- Ken?

15 (Laughter.)

16 PANEL MEMBER MALLOY: Yeah -- Ken talked about,
17 which is it depends -- it matters -- and Ann really drove
18 this home. It matters on how you're making the decision.
19 So if you are doing this kind of sequential thing of
20 knocking things out by elimination first based on certain
21 hazard traits, that's going to -- there's going to be kind
22 of a different level of materiality for me there, because
23 you don't get the second -- you know, things could change
24 later on and so on and so forth.

25 So this long-winded thing was really trying to

1 get at this notion that materiality, we should have a -- I
2 would think that the guidance should set out kind of
3 the -- an understanding that best professional judgment
4 would be useful in certain circumstances where data is
5 available. It ought to be -- which is what I think you
6 meant, not a fishing expedition, but a sensitivity to the
7 availability of data.

8 So you go out and you collect what data is
9 available and you make judgments on those more kind of
10 perhaps quantitatively and rigorously. Where there's less
11 data, now you've got to fall back on professional judgment
12 or where the cost of the analysis with data that is
13 available might be excessive, and yet if you put ten
14 people in a room and ask them, do you think there's going
15 to be an issue, every single one of them would say that's
16 not going to be an issue.

17 You know, so I think it's got to be this
18 iterative type thing with a series of factors and so on
19 and so forth.

20 But I do -- I'll leave with this, which is I do
21 feel like based on what we've worried about the
22 regrettable substitution, we can all point at examples
23 where people thought they knew, right, what they were
24 looking at? And it is important to make people kind of
25 think about the factors as they go by, and then I think it

1 is helpful to justify why it is you went past that one,
2 because it forces you to think about it, so you're not
3 just doing a checklist.

4 I do agree with Helen that it may be that at the
5 outset, if DTSC might be able to say based on what we know
6 about this and the alternatives we've identified, it's
7 unlikely that this will be a relevant factor. I think if
8 you can give guidance in your priority listing, that would
9 be helpful. So I think it's kind of a combination of all
10 those.

11 I'm sorry for taking so long, but this is a
12 really tough -- tougher -- like when we said here's what
13 we're going to talk about. I thought, well, why are we
14 going to talk about that for so long?

15 I guess we know now.

16 (Laughter.)

17 CO-CHAIRPERSON FONG: Thank you, Tim, for keeping
18 your comments short. So I see that, in fact, my stern
19 warning to you last night after dinner about -- was, in
20 fact, very effective. Thank you.

21 I have Kelly, Julia, Me, and Meg.

22 So, Kelly.

23 CO-CHAIRPERSON MORAN: Thank you. And it's --
24 I'm glad that Tim and all of us have senses of humor here,
25 because it's very fun to exercise them in a science

1 meeting, and I think keeps the appropriate tone, because I
2 really appreciated some of the directness and honesty of
3 the exchange that you all have and that you're not afraid
4 of putting out what you really think. You're not -- you
5 know, don't hold back. Tell us -- no, tell us what you
6 think, because -- well, it's really going to help us
7 together have that dialogue. And the fact this we don't
8 agree is okay. And it might help us figure out a new way
9 to go and it certainly will help the Department to hear
10 all the different views.

11 So I just have a couple of thoughts.

12 First, is that it seems to me that some potential
13 follow-up conversation might be merited in the areas of is
14 this material?

15 And related to that, I think there's a question
16 about is what we know important in deciding if something
17 is material, so that this goes right to the data gap
18 conversation that we're going to try to squeeze a little
19 bit in and maybe take that offline too.

20 I'll agree with Ken, I think this whole staged
21 approach, I'm big fan of doing that, and often do that
22 myself. And then I really want -- I want to kind of
23 quickly just walk through these various things. I
24 can't -- except in the case of a fatal flaw screening --
25 like our company has a policy of not using any

1 carcinogens. So we're not even going to select
2 alternatives that are carcinogens -- I think it would be
3 important to do what has commonly been termed the fishing
4 excursion.

5 And the important thing there is to make sure
6 that you don't just look for a piece of data in an area,
7 but that it's full enough that we can understand what
8 might be the most important piece of data. And the reason
9 I'm saying that is my experience in aquatic toxicity in
10 particular and environmental toxicity, for human stuff
11 there may be competing studies at the same endpoint. For
12 environmental toxicity, there's all these different
13 species. So we're not talking about competing studies,
14 we're talking about actually different species that have
15 actually different -- and there's even different
16 endpoints, so it's not just it dies. We're also wondering
17 about does it grow and reproduce, can it still swim, is it
18 going to be able to -- will its eggs hatch, you know, all
19 these other things.

20 So stopping -- I think some of the methodologies
21 that are out there say, oh, find your *Daphnia magna* LC50
22 and your fathead minnow LC50 and you're done. And in my
23 experience, if you don't look for the rainbow trout and
24 the *Ceriodaphnia* and you don't start looking at all the
25 other species that are out there, you could miss something

1 really important to decision making.

2 And maybe none of those things exist, but if -- I
3 want to make sure I emphasize the importance of being
4 completely enough. I'm not fond of each firm decides for
5 itself. I think that would be extremely hard for the
6 Department. And I've also had some experiences where --
7 in certain instances, where you decide for yourself,
8 you're going to decide for yourself in a way that favors
9 the decision that you'd like make at the end, because you
10 might have an economic interest in one decision versus
11 another. And maybe the customer doesn't have it, but
12 maybe someone other than the customer is doing the AA, and
13 that's probably going to happen.

14 I'm also not very fond of DTSC being asked to set
15 some requirements, but I do think that it makes sense, and
16 I think it's already, in fact, in the regs that there's
17 kind of a minimum level of things that have to be thought
18 about. So I'm not sure that's a special separate thing.

19 As you know, I like the conceptual model in terms
20 of helping move that forward, and particularly helping us
21 know what we don't know that might be important. So
22 that's it.

23 And then I've got to say I'm really down on best
24 professional judgment, and for the reason that Tim kind of
25 got at. All of us can name time after time where you had

1 a group of really smart people who got together who were
2 just convinced that there wasn't going to be harm from
3 something, and they were wrong. And my favorite case of
4 that is PCBs.

5 So I -- one of my latest things is PCBs and
6 building caulk. So we know it wasn't going to be there.
7 It's not going to be there for pesticides. It's pet flea
8 treatments. We're going to put a spot of something on a
9 pet and it just disappear from the world. And now we know
10 that's not true either.

11 So those are just examples of best professional
12 judgment by good smart professionals can still be wrong.
13 So I think that the other more scientific approach is
14 where we pull that thread a little bit and think it
15 through a little more are important.

16 Thanks.

17 CO-CHAIRPERSON FONG: Thank you, Kelly.

18 So I have Julia, Meg, and I'll the final comment
19 on the strategies for determining relevant factors before
20 switching gears over to data gaps.

21 Julia.

22 PANEL MEMBER QUINT: Yeah. Julia Quint. Yeah,
23 just -- I think, you know, what's really important is
24 to -- for DTSC not -- to set -- to define an approach to
25 looking. I mean the fishing excursion, you will have to

1 search the literature or whatever you do, I mean, and look
2 at physical chemical properties, and try to predict, look
3 at structure activity for the alternatives, you know, or
4 whatever, to try to predict what is important in terms of,
5 you know, health and ecological hazards, and -- as well as
6 all of the lifecycle information.

7 But I think, you know, having some idea of what
8 approach you should take it will be important, because I
9 think somewhere in the regular it said, you know -- it was
10 very vague about where -- looking for information -- best
11 available information or available information. That
12 could be Google for some people. It could be a variety of
13 different things PubMed for other people.

14 So I think having some sort of structured way of
15 doing the fishing would be important. You know, if you're
16 a soil chemist, what would you look at in order to rule
17 out soil contamination or something like that. I'm not a
18 water person, but what would be the logical places for you
19 to look for information for a chemical if you were trying
20 to rule out effects on water or something like that.
21 There has to be -- I mean, that's happened for other
22 regulations. Like for the Hazard Communication Standard,
23 they would have a series of references or places for you
24 to look for the information. If you've exhausted all of
25 those, then at least you've made some attempt to get the

1 information. If you leave it very vague, you know, best
2 professional judgment can mean anything to anybody.

3 So I think it would be important if -- to the
4 extent possible to think about the approach you would take
5 if you were trying to find out information about a
6 chemical that you didn't have -- you know, that wasn't
7 well studied where it's not data rich, and what would that
8 approach be? And then that would be a way to evaluate the
9 AAs. If the person has gone through and systematically
10 looked at all of these different resources and there's no
11 information available, either the alternative can't be
12 used or at least you know that some attempt has been made
13 to, you know, assess the hazards.

14 And that's all we do in government. If you're
15 trying to look for something and do a comprehensive
16 evaluation, you just look, you know, at all the sources
17 for that information. And if you don't have it, then --
18 you know, and we're not asking people to develop it. So I
19 think that would be important though in the guidance is
20 the approach to looking.

21 CO-CHAIRPERSON FONG: Thank you, Julia.

22 Meg.

23 PANEL MEMBER SCHWARZMAN: Thanks. I wanted to
24 bring up briefly the document that Helen gave us last
25 night and circulated, because I think my favorite also

1 from the list up here is the chunk that's sort of three
2 through five and some variation on that, where, you know,
3 the combination of the conceptual model that DTSC puts
4 forth at the beginning, sort of says here's what we think
5 is important. Now, all you stakeholders out there, either
6 responsible entities or public health scientists or NGOs
7 or whatever, what have we missed?

8 And that gets, you know, added onto and iterated
9 on. But then that's just the starting place, and paired
10 with -- with the, you know, type of kind of guidance that
11 Helen handed out last night, I think it's potentially an
12 approach that firms can use -- responsible entities can
13 use that helps start to answer the question what is it to
14 consider, the A through M?

15 Sort of does it go down the drain? Okay. If so,
16 what effect does it have on water? And obviously, it's
17 not the complete how-to guide, because it doesn't have --
18 it doesn't address Julia's question of what does it mean
19 to answer this question what is it's affect on water? So
20 there's still some steps about how do we -- what steps do
21 we expect responsible entities to take to be able to
22 answer those questions, how far do they have to look, in a
23 sense?

24 But I like it, because I think it's the first --
25 it's a great starting framework, so you take the

1 conceptual model and then you run through all these
2 questions. And you need a little bit of guidance about
3 how to -- where to look to answer those questions.

4 The one other piece that I wanted to bring up is
5 something we haven't talked about yet at all, because it
6 hasn't really been particularly relevant, but remembering
7 that this AA goes into a regulatory decision. And
8 remembering the range of actions that DTSC has at
9 its -- in its toolbox to take. And so there may well be a
10 big question mark on some piece of the conceptual model,
11 or, you know, missing data. This is partly to help you
12 make the transition, Art, to the next section.

13 That I can imagine some creative responses that
14 DTSC could have in terms of the regulatory actions that
15 they take in response to these submissions. And it could
16 be some combination of actions that pairs filling data
17 gaps with actually making some substitutions, or making a
18 substitution that seems to make sense based on the
19 information available. And, by the way, would you please
20 monitor this effect that this has on water, you know, for
21 the next year and get back to us about it? Or that
22 there's -- that there's those kinds of -- there's such a
23 colorful palate of actions that DTSC could take that could
24 be formed from, you know, the questions that arise because
25 of the conceptual model and the way that responsible

1 entities cruise through it. I just wanted to bring in
2 that element.

3 CO-CHAIRPERSON FONG: Thank you. Before I make
4 my comments, I just want to do a time check, because
5 people have flights that they need to get to. And it's
6 almost 11:15 and our meeting is scheduled to end at 11:30.
7 And we're going to spend the last half hour planning for
8 future in-person meetings and possibly subcommittees. So
9 should we continue with this conversation or just --

10 DEPUTY DIRECTOR WILLIAMS: I don't think that we
11 would do any kind of justice to a conversation on data
12 gaps at this point. It's just too big a can of worms to
13 open at this late hour. And so I think -- and this
14 conversation is valuable, so just a few more -- you know a
15 few more minutes on that, and then we could move to next
16 steps.

17 CO-CHAIRPERSON FONG: That sounds great.

18 So I have Helen, Ken, and myself.

19 Helen.

20 PANEL MEMBER HOLDER: So I kind of have another
21 clarifying question again for Meredith and Lynn. So
22 looking at these options or strategies potentially, it
23 actually -- it's kind of in response to Kelly's distaste
24 for number two. Number two is actually the only thing
25 that's supported by the regs, right? So I just want to

1 make sure that that's clear. It's like -- that these
2 other things -- anything that involves DTSC making some
3 narrowing, that's the question that we asked before,
4 right? So number two is actually the only thing that the
5 regs will support, is that true?

6 DEPUTY DIRECTOR WILLIAMS: In the narrowest
7 sense, yes, right.

8 BRANCH CHIEF PALMER: Well, 1 and 6 would also be
9 supported.

10 DEPUTY DIRECTOR WILLIAMS: That's true.

11 PANEL MEMBER HOLDER: Okay. Okay. So the
12 firms -- so the responsible entity is on the hook for
13 doing all that. That's what we established before.

14 DEPUTY DIRECTOR WILLIAMS: Yes.

15 PANEL MEMBER HOLDER: And so I guess my -- if
16 that's true, then the question that I have is can the
17 Department give any guidance at all on determining
18 relevancy? Because anytime you start weighing in on what
19 you think could be eliminated, you're endorsing an
20 incomplete consideration of the set of factors. So is
21 this all a moot question for guidance and for mapping that
22 initial model?

23 BRANCH CHIEF PALMER: I'll add, and then Lynn you
24 can jump in. But I think, you know, we've always had
25 issues of where you draw the line between guidance and a

1 rule of general applicability or a determination. And I
2 think what we're hoping to do is give examples, scenarios,
3 tools, and framework discussion that will inform the
4 responsible entity in the making of the decision in the
5 AA.

6 So if you're asking can we, by -- essentially do
7 a de facto exemption or exclusion of some factor that's
8 required in the reg, the answer is no. Can we frame it
9 and say this is our thinking, and this is where we suggest
10 you look, yes. Can we -- and then when -- the other thing
11 I want to stress is that our hope is that these are not
12 going to be processes that are done in a vacuum, is that
13 as we go through the process of having the workshops and
14 dealing directly with responsible entities doing the AA,
15 that there's an opportunity for dialogue and discussion to
16 help people. So that once we get through guidance
17 development, which is our focus, is that we'll help people
18 through it.

19 But my angst is that ultimately, it's the
20 responsibility of the entity. We want to do as much as we
21 can to help that decision-making process, but we can't be
22 the decider at that point in the process. So cutting
23 something off, no, but we could suggest, for example, in a
24 framework saying this is our perspective of why we chose
25 this in the priority products selection. Here in the

1 guidance, if we want to do specific guidance on a specific
2 priority product, we could say these are our questions
3 that we think are of interest.

4 But a lot of it is we don't know the answer or
5 the lack of data or not and that the framework is asking
6 people who know more about it. So understood that's
7 not -- there's a tension there.

8 STAFF COUNSEL GOLDMAN: Just something --

9 PANEL MEMBER SCHWARZMAN: Could I just do a
10 clarifying thing, because I felt like what I said was
11 misunderstood, maybe about three through five? Is that
12 all right? And then I would put my flag down. That's
13 all.

14 CO-CHAIRPERSON FONG: Yes, please.

15 PANEL MEMBER SCHWARZMAN: Okay. I think I was
16 picturing it the way Karl just described it, not that
17 three through five describe a narrowing that DTSC does,
18 more like a pointing in this direction, and then using a
19 worksheet, for example, like your factors that step a
20 company right through A through M. They consider all of
21 those. It doesn't -- it doesn't -- DTSC's pointing in a
22 certain direction doesn't remove any of the factors, A
23 through M, from consideration. That wasn't my
24 understanding of options three through five up there.

25 STAFF COUNSEL GOLDMAN: Yeah, so I just -- I want

1 to agree with that, that really what we're saying for
2 relevant factors, what you need to consider. One of the
3 things you have to consider is the exposure factors that
4 we considered when we prioritized, so the things that we
5 put into the profile, so kind of echoing both Karl and
6 Meg.

7 We're not going to take anything off the table,
8 but we certainly do highlight things that we think are
9 absolutely relevant. So there is kind of a minimum data
10 set there, but we wouldn't take anything off the table.

11 PANEL MEMBER HOLDER: And I think that this is a
12 really important point for us to discuss, because there's
13 a difference between deciding something is important and
14 taking something off the table. There actually --
15 although, it results in sort of the same decision, I mean,
16 the question that I keep having is -- in my mind, is how
17 do I justify excluding something? What is the
18 substantiation? What level of consideration do I have to
19 show in order to exclude?

20 And I guess the reason that I was asking this
21 question as a procedural question was, it may be -- I
22 guess my question was can the Department, even in a
23 guidance document, give you any indication of what can be
24 taken off the table? Is that allowed within your
25 authority to even give that sort of a guidance, that it's

1 okay to not look at a factor under certain circumstances?

2 DEPUTY DIRECTOR WILLIAMS: And I think we then
3 run this risk of underground regulations or, you know
4 being in --

5 PANEL MEMBER HOLDER: That's exactly why I'm
6 asking.

7 DEPUTY DIRECTOR WILLIAMS: Yeah. Doing something
8 that explicit in the guidance is very likely to be counter
9 to the regulations.

10 PANEL MEMBER MALLOY: Can I just jump in for just
11 a second just on the legal question? It's like the only
12 time I get to talk with any authority.

13 (Laughter.)

14 PANEL MEMBER MALLOY: And even that is moderate,
15 because I'm not DTSC, but could I just say one quick
16 thing?

17 CO-CHAIRPERSON FONG: Can I stop you?

18 (Laughter.)

19 PANEL MEMBER MALLOY: You can stop me now.

20 (Laughter.)

21 PANEL MEMBER MALLOY: I just wan to say --

22 CO-CHAIRPERSON FONG: We always appreciate your
23 insights.

24 PANEL MEMBER MALLOY: Okay. And I'm not jumping
25 in here reflecting that I support the idea that DTSC

1 should or shouldn't do something, like what Helen is
2 saying, but I take her question as being more narrow than
3 what's being answered, because I take her question as if
4 DTSC were to make a statement say in the priority product
5 listing and they'd identified the priority product and a
6 few alternatives, and said we've looked at all the data
7 and based on our review of available data, we don't think,
8 say, there's a greenhouse gas issue with any of these or
9 that these come from the same manufacturing thread and
10 therefore you wouldn't have to look at that lifecycle
11 segment.

12 The question is whether in complying with the
13 regs, the responsible party could say we're dropping out
14 this segment and we're relying on the data -- the
15 statements the DTSC and the supporting data that they use,
16 would it be a -- would that be a way in which there'd be
17 this iteration, this interaction?

18 And, to me, that seems like -- whether you agree
19 or disagree with DTSC being in the business of doing that,
20 as a legal matter, I don't see that there's any legal
21 barriers to that. It's not an underground regulation
22 problem, because that's in the priority product listing
23 that went through the regulatory process, right?

24 So I'm just saying, and its -- to me, it seems
25 like there's legal authority to do it. Whether it's a

1 good idea to do it, you know, I don't -- you know, that's
2 not my call.

3 CO-CHAIRPERSON FONG: Thank you, very much, Tim.
4 I have Ken and Don.
5 Ken.

6 PANEL MEMBER ZARKER: Sure. Ken Zarker.
7 So a very helpful discussion. I thought there's
8 a lot of good ideas here in terms of how you might
9 approach this. You know, I think more of maybe a hybrid
10 approach.

11 But I go back to a couple thoughts. We used to,
12 you know, talk about the letter of the law versus the
13 spirit of the law. And I feel like this conversation is
14 going towards a really compliance oriented approach. And
15 my fear with that is that people will look at this as a
16 check box exercise. They'll meet the conditions. The
17 staff will review that. So the missed opportunity here.
18 And these things are also going to be snapshot in time
19 based on available science and the data.

20 So I've been thinking about how DTSC might
21 promote or what we could learn from product innovation.
22 So how do organizations go about doing product innovation?

23 In the old days of pollution prevention, we got a
24 multi-disciplinary team together to address these issues.
25 So I think these are all helpful ways to go about a

1 process, but you might think about putting guidance on how
2 you might organize a team or a process that promotes
3 product innovation, because I think that's, at the end of
4 the day, what we're trying to advance through the science.

5 CO-CHAIRPERSON FONG: Thank you, Ken.

6 Don.

7 PANEL MEMBER VERSTEEG: Yeah. I just wanted to
8 quickly say something in favor of best professional
9 judgment. This will get into data gaps, but sooner or
10 later you're going to have a glaring data gap. And you
11 can do structural alerts, a.k.a. best professional
12 judgment, you can do QSARs, a.k.a. best professional
13 judgment, or you can do best professional judgment.

14 So, at some point in time, you're going to have a
15 data need that you're not going to have data to fill and
16 you've got two choices. You can, you know, use best
17 professional judgment and all the tools that are very
18 similar to best professional judgment, or you can run a
19 study.

20 I'm not sure -- I don't know if the regulations
21 allow you to go off and do studies if there's sufficient
22 time to do that in the regs or if that's even supposed to
23 be part of this? But best professional judgment is going
24 to have to be used to fill in data holes.

25 CO-CHAIRPERSON FONG: Thank you very much.

1 And I will end today's session by making a
2 comment that's actually it's going to tie in Ken Geiser's
3 comment on a staged approach and Ken Zarker's comment on
4 innovation. So, you know, as I understand what you were
5 getting at Ken, was in terms of the stages approach, you
6 would have kind of an initial set of relevant factors that
7 would help you rapidly screen out certain alternatives.

8 And the initial set may be something like, you
9 know, the most -- the major -- important relevant factors,
10 such as human health impacts. And I think that's a really
11 good approach, but I think it's premature to use that by
12 itself, because -- I'm sorry to do that by itself without
13 taking on considerations of use, exposure, performance,
14 availability, and other factors, because that goes back to
15 Ken's comment about innovation.

16 In order for us to do innovation -- so let me
17 give you a very specific example. Right now, the
18 semiconductor industry is trying to figure out how to make
19 semiconductors smaller, faster, and more energy efficient.
20 And one of the pathways for doing that is to use certain
21 types of compounds, such as gallium and indium. And if
22 you were to use the staged approach without taking other
23 factors into consideration, you would pretty early on
24 eliminate that as a possible way of moving us forward.

25 And that really -- it's -- if you were to try to

1 do that in the semiconductor industry, it would just
2 really be a major roadblock to the innovative process. So
3 just something to keep in mind, or just want to make that
4 point.

5 So I'm going to now switch the mic over to my
6 co-chair Kelly Moran who is going to walk us through the
7 next steps.

8 CO-CHAIRPERSON MORAN: All right. Well, I'm
9 probably going to fairly quickly turn this over to
10 Meredith. But we're at the point in the meeting where we
11 need to figure out where to go from here. We've had, I
12 think, a really amazing set of dialogue over the last day
13 and a half. And you all have individually contributed in
14 all kinds of various ways a lot of very stimulating
15 thoughts that I've personally found very exciting. And
16 it's just the start down this part of journey towards
17 helping the Department through its journey in implementing
18 this regulatory process.

19 So our goal in the next half hour is partly
20 substance and partly logistics. So I'll be asking
21 Meredith to start off by saying whatever. I know you'd
22 like to be thinking about what next steps there are, and
23 you may want some input from this Panel about topics that
24 we might want to consider.

25 But I think the most important thing is what does

1 the Department need, because some of the things we're
2 talking about here today have been conversations that the
3 staff have been having for months, and aren't surprises.
4 And so it's not just because we're sticking on something
5 doesn't mean that the staff needs more from us in a
6 particular area. So I want to start with Meredith, and I
7 think she's going to ask for some advice, but our focus in
8 the next steps should be what is the Department going to
9 need?

10 So, Meredith.

11 DEPUTY DIRECTOR WILLIAMS: Thank you. I would --
12 that was a great set up, simply because there is this
13 element in which a lot of the topics that we're discussed
14 have been discussed by the alternatives analysis team.
15 And yet, the great thinking, the clear articulation, the
16 varying perspectives really take us to the next level in
17 terms of being able to really practically develop some
18 guidance, and capture things, knowing what needs to be
19 captured in the guidance, whether that's a more adequate
20 discussion of what material is, or whether it's examples
21 of how you might use conceptual models, et cetera.

22 I think we walk away with a lot that's really
23 quite actionable. And so even though some of you are
24 frustrated or confused, the vast majority of the
25 conversation was directly relevant to the work that we're

1 doing. So I really appreciate all your thoughtfulness.

2 In terms of next steps, one thing we had thought
3 about doing, and I'm just going to throw out one or two
4 topics that could be considered by the GRSP, and then
5 hopefully there will be an opportunity for Panel members
6 to make suggestions. But this issue of data gaps is
7 not -- it's going to go away.

8 And so there are questions around how do you
9 decide whether there really is a data gap? What's the
10 hierarchy of data knowledge from, you know, an
11 authoritative list all the way down to best professional
12 judgment, and everything in between? And at what point do
13 you say, yes, this is a data gap? And then you have to
14 decide whether that data gap is material, and then you
15 have to decide what you're going to do around it.

16 I'd be very interested in hearing, especially
17 from the practitioners, what they have done to make those
18 decisions? Is there a data gap? Is it material? What am
19 I going to do about it? So that's a topic that I think we
20 would really like to hear the Panel explore in the future.

21 I know Ann is probably going to say a little bit
22 more about functional use. So I'm not going to refer to
23 that one so much. Bob, this is your chance to -- do you
24 have anything you want to just throw out as a concept?

25 SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

1 Well, one of the other overarching elements
2 that's been brought up, we haven't really talked about
3 decision making, but trade-offs was talked about and how
4 do we give guidance to people to consider trade-offs and
5 decision making? So that's another similar to what is
6 relevance, very similar.

7 DEPUTY DIRECTOR WILLIAMS: Yeah. And in the long
8 term, of course, as we get closer to a regulatory
9 response, you know, how do we cultivate transparency
10 around our decision-making process, what tools are useful
11 for doing that? These are the things that maybe are not
12 on our front burner, but certainly are going to be coming
13 at us pretty quickly.

14 So those are just a couple topics I'd be
15 interested in hearing whether or not the GRSP thinks those
16 are good topics to pursue, and I'd be interested in
17 hearing additional topics also.

18 CO-CHAIRPERSON MORAN: So I see Ken Geiser and
19 Ann Blake, one, two, and both of those questions on the
20 table.

21 Ken.

22 PANEL MEMBER GEISER: I think the topics you've
23 suggested look good. Those are ones -- obviously, we were
24 going to try to get to data gaps today. We didn't, so --
25 and I do think that's appropriate.

1 The functional use thing I think is very
2 interesting, and California could really do a good job at
3 helping to ferret out a longer discussion that's going on
4 across the country, so I really like that.

5 I do want to put a plea though into something I
6 said yesterday, which is I would hope -- I really feel
7 it's important that DTSC spend some time looking at how
8 they're going to actually evaluate the alternatives
9 assessments they get in. And I feel that to wait too long
10 on that is going to be problems down the road. So maybe
11 you don't want us to help you with that, but here's just
12 another moment for me to make that plea. If the GRSP can
13 be helpful in that, I would urge you to think about that
14 as well.

15 CO-CHAIRPERSON MORAN: All right. Ann followed
16 by Meredith and Becky.

17 PANEL MEMBER BLAKE: Actually, since Ken has said
18 that I think I'd want to echo that as well. That came up
19 a lot yesterday but definitely you can't really forward
20 without -- with guidance without knowing what it is you're
21 going to be evaluating for. So just to put another plug
22 in for that.

23 I wanted to give a little more substance to the
24 topic of functional use and to say that while there is an
25 ongoing conversation -- and Cal is very much a part of

1 this as is Ken, so feel free to add to that -- I'm not
2 sure that this is necessarily the time you want to think
3 about functional use.

4 So where the conversation is now, in the broader
5 practitioner community is thinking about what kinds of
6 information do we need in a functional use, how do we
7 categorize functional use, and what kind of information is
8 it, that we need to make a decision -- a good decision on
9 an alternative, so to avoid regrettable substitutions and
10 so forth.

11 So that's where we're at, what's the granularity
12 of information that's necessary, how do we find that,
13 where are the data gaps, kind of -- it's a parallel
14 conversation, but I think it belongs more in the
15 alternatives assessment when you start getting evaluations
16 of alternatives in

17 CO-CHAIRPERSON MORAN: So Meredith, do you want
18 to jump in now? I see your card is up.

19 DEPUTY DIRECTOR WILLIAMS: Yeah. Another topic
20 that we touched on yesterday, but we didn't -- and I know
21 that all of you have lots of opinions about whether or not
22 these were color coded properly. And we will just take
23 for granted that they're not colored properly.

24 However, there are general patterns in this table
25 that we looked at that we didn't really dig into very

1 much, which is there are certain areas where we know that
2 there are -- there -- the frameworks that have been
3 developed to date really have not delved deeply into those
4 particular areas, and they are required to be considered
5 as part of our regulations, and therefore there's a gap in
6 the science, there's a gap in the state of the art when it
7 comes to alternatives analysis.

8 And there's a question of, you know, what can
9 DTSC or California due to encourage the community of
10 practice to start digging into those things? There are
11 questions -- this raises questions about, you know,
12 what we're asking responsible entities to take on, given
13 that we know already that in terms of water conservation
14 there's not a lot of depth of knowledge out there or not a
15 lot of -- the frameworks don't go as deep as we'd like
16 them to go.

17 So that's another thing to think about is how do
18 we fill in the gap in the kind of the state of the
19 knowledge?

20 CO-CHAIRPERSON MORAN: Becky.

21 PANEL MEMBER SUTTON: I'd like to do a little bit
22 more discussion on situations where we're not dealing with
23 drop-in replacements, because I think that might be more
24 the exception than the rule, if you can't just eliminate
25 and unnecessary chemical.

1 CO-CHAIRPERSON MORAN: And I'll just briefly say
2 that something that may or may not be appropriate here,
3 but I'll just throw it out there, is about professional
4 development. The last time this group was together there
5 was actually an assessor requirement and so forth in the
6 regs, and that fell out. And I know there are some other
7 movements afoot on professional development. So I don't
8 know if there's need for a conversation here, but I'll
9 just throw that out there as something I keep seeing is
10 how is that conversation going to happen and how DTSC
11 relates to that, and the fact that many of those
12 conversations are around something that's a little smaller
13 in terms of its capacity than what we're talking about
14 here, so -- and I just saw Cal stick her card up.

15 PANEL MEMBER BAIER-ANDERSON: Well, I think on
16 that note this field is still evolving, so even when we
17 discussed the conceptual model, the conceptual model for
18 risk assessment may mean different things for alternatives
19 assessment. And so, you know, having or adding to the
20 guidance materials definitions and an explanation of how
21 we can appropriate tools from other disciplines to help,
22 but how that would be different from the standard use, I
23 think, could be useful.

24 But again, getting back to this concept that it's
25 evolving as -- you know, as we're meeting, this concept of

1 alternatives assessment is evolving. So that makes it
2 tricky, but it also makes it critical that we have some
3 type of development process.

4 CO-CHAIRPERSON MORAN: I'm not -- oh, Helen, I
5 missed you.

6 PANEL MEMBER HOLDER: It was in our parking lot,
7 but I'll put it on our next steps as well, is
8 substantiation levels. What do you need to do to prove
9 that something is excluded, as relevant? What do you
10 need -- what's the documentation level that you need to
11 do?

12 CO-CHAIRPERSON MORAN: And I'll take the Chair's
13 privilege of attaching to that, Tim raised the definition
14 of material. It's kind of a related thing.

15 I don't see any other flags up, at this point, so
16 have you heard what you needed from this group right now?

17 DEPUTY DIRECTOR WILLIAMS: I've heard. That's
18 quite a range of topics, and so we will have to do some
19 thinking about priorities and -- yeah.

20 CO-CHAIRPERSON MORAN: Okay. So in terms of next
21 steps, how do you want to proceed? We have about 20
22 minutes. And our thought had been to try to think about
23 doing some discussion of scheduling and what kind of
24 meetings we might want to have. Do you want to go ahead
25 and do that at this time, or are there other things?

1 DEPUTY DIRECTOR WILLIAMS: Well, the short reason
2 to have that discussion is that our current thought had
3 been to have a another meeting in the fall. And if we
4 have a meeting in the fall, that's after the -- after the
5 workplan will be published, so there wouldn't be an
6 opportunity to weigh in on the workplan. And then we'll
7 be in the home stretch on some level of guidance. And so
8 it's a little bit late.

9 So it would be valuable to the Department, either
10 to have subcommittees that we can engage with in the
11 intervening time frame or have at least a conference call
12 meeting to talk about the workplan and talk about, for
13 instance, this issue of signaling the endpoint about our
14 decision-making process, and bringing that back before the
15 Committee and getting some input.

16 CO-CHAIRPERSON MORAN: All right. So do you want
17 to think about any of that scheduling right now, or where
18 do you want to go. We have 20 minutes. We can do
19 something with it.

20 DEPUTY DIRECTOR WILLIAMS: Well, I did -- yeah, I
21 did see some nodding of heads that people seem receptive
22 to the possibility of having something this summer?

23 (Head nods.)

24 DEPUTY DIRECTOR WILLIAMS: Yeah, anybody got a --
25 I mean, -- okay. Great.

1 Corey, do you want to -- I'm going to look at you
2 in terms of whether you want to try to tackle some
3 scheduling now. And at the very least perhaps we should
4 look at the October dates anyway and ask people if they're
5 available on the October dates, which they don't have. Do
6 they have?

7 We have potential dates, September 2nd, 3rd, and
8 4th. We're not asking you to come for three days, but
9 those are -- within those three days we might ask for
10 another day and a half. And I'll tell you that's the
11 day -- those are days right after Labor Planning. So if
12 you're planning to go away on Labor Day, that might not be
13 ideal. October 7th and 8th, 13th through 16th, October --

14 PANEL MEMBER SCHWARZMAN: Can you slow down and
15 repeat those.

16 DEPUTY DIRECTOR WILLIAMS: I know. I'm just -- I
17 got warmed up. I just had my own copy.

18 Let me know when you're ready for me to -- okay.
19 So I said October 7th and 8th, October 13th through the
20 16th, and that's the Monday through the Thursday of that
21 week. October 20th and 21st, that's the Monday, Tuesday,
22 and October 29th and 30th. I'm sorry. Do we get Columbus
23 Day off?

24 BRANCH CHIEF PALMER: No.

25 DEPUTY DIRECTOR WILLIAMS: Sorry, just making

1 sure.

2 So that said, I'd love to hear known conflicts
3 first. If people have known conflicts with any of those
4 dates, please let us know.

5 Yes, Corey, so we have some known conflicts here.

6 PANEL MEMBER ZARKER: The last week in October is
7 problematic for me. We have our Green Chemistry
8 Roundtable meeting up there in Seattle.

9 DEPUTY DIRECTOR WILLIAMS: Okay.

10 CO-CHAIRPERSON MORAN: Maybe an easy way to
11 handle that would be to just since I think everyone got
12 the dates down -- did everyone get the dates down? Maybe
13 we can just go around the room and ask if you have a
14 conflict on any of the dates, and maybe the staff could
15 keep track of those.

16 DEPUTY DIRECTOR WILLIAMS: Okay. Don, do you
17 know of any conflicts.

18 PANEL MEMBER VERSTEEG: Last week in October is
19 bad.

20 DEPUTY DIRECTOR WILLIAMS: Okay.

21 PANEL MEMBER SUTTON: I have a conflict on
22 October 14th.

23 DEPUTY DIRECTOR WILLIAMS: Okay.

24 PANEL MEMBER SCHWARZMAN: I think I'm okay,
25 except for teaching, but that's always there.

1 PANEL MEMBER QUINT: None that I'm aware of.

2 PANEL MEMBER MALLOY: I have a problem with the
3 7th and 8th, we have like a big conference on the 9th and
4 the 10th.

5 PANEL MEMBER HOLDER: I was going to say no
6 conflict, but I guess whatever he's got, I probably have
7 that too.

8 PANEL MEMBER GEISER: Okay. So the first week of
9 September I can't do, and the last week of October I can't
10 do.

11 DEPUTY DIRECTOR WILLIAMS: Okay. Well, let me
12 just tell you the only date I've heard so far that works
13 for everybody is the 20th and the 21st. So don't blow it.
14 Yeah. So, Mike, what do you got?

15 PANEL MEMBER CARINGELLO: The only conflict for
16 me was the last week of October.

17 PANEL MEMBER BLAKE: Same as has already been --
18 Tim's conference on the 9th and 10th, and the last week of
19 October.

20 DEPUTY DIRECTOR WILLIAMS: Okay.

21 PANEL MEMBER BLAKE: The last week of October is
22 an AA Community of Practice, so that's going to take quite
23 few of us.

24 DEPUTY DIRECTOR WILLIAMS: Okay. That's not
25 going to work.

1 Cal.

2 PANEL MEMBER BAIER-ANDERSON: I'm good.

3 DEPUTY DIRECTOR WILLIAMS: Okay. So I think we
4 actually -- oh, no, you guys don't count.

5 Just kidding. I'm sorry.

6 CO-CHAIRPERSON FONG: I'm going to take the
7 positive approach and tell you that I'm open on the 20th
8 and the 21st.

9 DEPUTY DIRECTOR WILLIAMS: Okay.

10 CO-CHAIRPERSON MORAN: Me too.

11 DEPUTY DIRECTOR WILLIAMS: So, Corey, those
12 are -- by the way those are dates when the Citizen is
13 available. So we can go ahead and reserve a block of
14 rooms and start thinking ahead to that meeting. So we'll
15 just presume that that's going to be the day. Yes.

16 PANEL MEMBER MALLOY: Two other members who
17 aren't here today --

18 DEPUTY DIRECTOR WILLIAMS: Bill and Julie.

19 CO-CHAIRPERSON MORAN: Yeah, Bill and Julie.

20 DEPUTY DIRECTOR WILLIAMS: Very good point. In
21 which case then, I should ask you to not just do the
22 affirmative, because if we come down to --

23 CO-CHAIRPERSON FONG: In that case, October 7th
24 and 8th is our and October 29th and 30th is out.

25 DEPUTY DIRECTOR WILLIAMS: Okay.

1 CO-CHAIRPERSON FONG: Thank you.

2 PANEL MEMBER SCHWARZMAN: I just wanted to point
3 out, I don't think you needed to scratch the entire
4 October 13th to 16th section. It was just the 14th Becky
5 was unavailable.

6 DEPUTY DIRECTOR WILLIAMS: Yeah. Okay.

7 CO-CHAIRPERSON MORAN: So we could do 15th and
8 16th. I'm looking for calls on October 15th and 16th.
9 Okay. So all the heads are nodding there. So we have two
10 sets of possible dates to check with Julie and Bill. And
11 so hopefully one of them will work for both of them.

12 So I think we're good there, but we would also be
13 anticipating having one or more conference calls this
14 summer. And those we'd probably schedule -- since those
15 don't involve travel, they're a little easier to schedule.
16 So but that -- it might be a conference call of more than
17 a couple hours. If we're going to get this together, we
18 might spend a half a day or more. So we want to make sure
19 folks are going to be committed to doing that?

20 And if we have subcommittee calls, our general
21 agreement is that if we have an official subcommittee, we
22 would bring that back to the full GRSP to at least talk
23 about the recommendations. So I just want to keep that in
24 mind. I don't know if we're going in that direction. But
25 if we wind up in that place, that's something that

1 everyone needs to kind of remember and think about, that
2 it is going to be important to be prepared to participate
3 in those.

4 DEPUTY DIRECTOR WILLIAMS: I'm going to jump back
5 to possible topics for future discussion, which is that
6 the National Academy report might be out by October, and
7 that could be an explicit agenda item that we -- you know,
8 we hear about that.

9 CO-CHAIRPERSON MORAN: And if after this meeting
10 someone comes up with something that they want to suggest
11 is the best thing to email Corey, since she's our lead
12 contact.

13 PANEL MEMBER GEISER: Just on the conference
14 call, can you avoid August?

15 DEPUTY DIRECTOR WILLIAMS: Yeah. I'm already
16 kind of anxious about summer. You know, so we'll see what
17 we can do. And actually for us earlier is a little better
18 because of the deadlines.

19 CO-CHAIRPERSON MORAN: So while we're wrapping
20 up, another thing is that almost everyone here is probably
21 requesting some kind of reimbursement, and you got a brown
22 manilla folder. And Linda Bunyan had provided you gory
23 details about what it is you needed to supply, and even a
24 mail-back envelope in there. So don't forget to do that.
25 The sooner you do that, the sooner you'll get reimbursed.

1 It does take a little while. And the paperwork
2 requirements are quite explicit, and you must do them
3 exactly as they're -- including the blue ink signatures
4 and all of this. So you'll get it back from Linda if you
5 don't do that.

6 And it would help the Department. Scientists are
7 the worst -- absolute worst at paperwork, and we all hate
8 it, but the Department's been very kind to us in making
9 the arrangements. I personally found it extremely
10 generous and easy to be part of this meeting, and really
11 appreciate the logistical work that the staff did in
12 preparation here.

13 So one small thing we can do to help them finish
14 that up is to do our forms properly and get them in
15 quickly.

16 So that's it. Meg has a questions.

17 PANEL MEMBER SCHWARZMAN: I was just looking over
18 the paperwork, and it says to send in receipts, and
19 usually there's a cutoff below which you don't have to
20 send in. Like the value of a receipt, like for the per
21 diems for meals. Do you have to provide receipts?

22 MS. YEP: (Shakes head.)

23 PANEL MEMBER SCHWARZMAN: No. Thank you.

24 CO-CHAIRPERSON MORAN: Okay. So the answer was
25 no, in case anyone didn't hear that.

1 All right. Are there other things that the staff
2 wan to do before we close out the meeting here?

3 I can do that. I just wanted to know if you
4 wanted to talk first or --

5 DEPUTY DIRECTOR WILLIAMS: No. Well, first of
6 all, lunch -- I did want to mention lunch. So there's a
7 table or two reserved at Blue Prynt Restaurant, if you'd
8 like to join as group. And I'd kind of be curious to get
9 a show of hands of folks who might be headed over to Blue
10 Prynt. It's -- Blue Prynt is kitty corner. It's not --
11 it's kind of associated with Best Western, so it's right
12 on that corner, if you happen to know where that is.

13 Are folks planning on going over there. We have
14 a couple takers. So it will be probably a small-ish
15 group, but yeah.

16 And I'd just -- this is my last chance I guess to
17 say thank you, which is just tremendous. I'd heard great
18 things about everybody on the Panel. And it certainly
19 exceeded my already high expectations, in terms of what
20 you might bring to the Department. And we are very, very
21 fortunate to have all of you and your great thinking.

22 CO-CHAIRPERSON MORAN: And I also want to say
23 thank you first to the panelists and then to the DTSC
24 staff. And specifically, I'll start with logistical
25 folks. They actually gave me a list to make sure that we

1 got everyone.

2 So Sharon, Heather -- Sharon Kipp, Heather
3 Kessler, Radhika Majhail, Jeff Wong, Linda Bunyan -- Jeff
4 is also doing science support here. Alexis Allston, Kim
5 Smith, and Corey Yep, in particular. Corey worked
6 exceptionally hard with us to get all this together.

7 And then I also really want to thank the
8 professional staff. It is difficult to listen to a lot of
9 people put in a critique of things you've done or are
10 doing and to make statements that sound like you haven't
11 thought about things, and we know you've thought about
12 them and so on. And part of why I want to thank you so
13 much is I know that there's a lot of work going forward.
14 This is a long journey. And I want you to know -- I think
15 I can say on behalf of all of us that we're coming on this
16 journey with you. We're here to support you. We're going
17 to be here to support you, and we really want to do that.
18 So we're looking forward to that.

19 CO-CHAIRPERSON FONG: Yeah. I also want to thank
20 the Panel members. I know how busy your schedules are and
21 what you had to do in order to be here for a day and a
22 half. And also for the people that actually had to travel
23 across country. Flying is no fun these days. So I really
24 appreciate you making the effort.

25 And in terms of the DTSC staff again, I just want

1 to mention the fact -- or reiterate what I said earlier.
2 I was really amazed at how much work they put into
3 organizing the agenda and the set up. It's impressive.
4 And I'm never going to say that, you know, State workers
5 done work again.

6 (Laughter.)

7 DEPUTY DIRECTOR WILLIAMS: I know you've never
8 said that before.

9 PANEL MEMBER VERSTEEG: Never again.

10 PUBLIC PARTICIPATION SPECIALIST MAJHAIL: I have
11 one more announcement to make for our listeners and for
12 the members, that all the documents that shared today, all
13 the PowerPoints, they will be on our website. So if they
14 want -- you know, if you guys want to take a look later,
15 they're going to be on the website.

16 Thank you.

17 PANEL MEMBER BLAKE: And because the co-chairs
18 spent a lot of time thanking everybody else, I wanted to
19 be sure that they got thanked as well. Thank you very
20 much for taking on the work of being co-chair. I know
21 it's no light lift here, so thank you for leading us
22 through this next phase.

23 CO-CHAIRPERSON MORAN: Thank you very much. Is
24 there any last thing anyone needs to say?

25 All RIGHT. This meeting is adjourned.

1 (Thereupon the California Department of Toxic
2 Substances Control, Green Ribbon Science Panel
3 recessed at 11:53 a.m.)
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1 C E R T I F I C A T E O F R E P O R T E R

2 I, JAMES F. PETERS, a Certified Shorthand
3 Reporter of the State of California, and Registered
4 Professional Reporter, do hereby certify:

5 That I am a disinterested person herein; that the
6 foregoing California Department of Toxic Substance Control
7 Green Ribbon Science Panel meeting was reported in
8 shorthand by me, James F. Peters, a Certified Shorthand
9 Reporter of the State of California, and thereafter
10 transcribed under my direction, by computer-assisted
11 transcription.

12 I further certify that I am not of counsel or
13 attorney for any of the parties to said meeting nor in any
14 way interested in the outcome of said meeting.

15 IN WITNESS WHEREOF, I have hereunto set my hand
16 this 24th day of April, 2014.

17
18
19 
20
21

22 JAMES F. PETERS, CSR, RPR
23 Certified Shorthand Reporter
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25